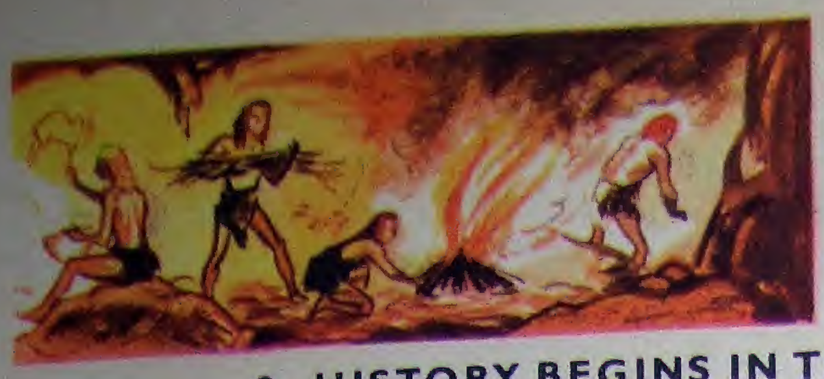
THE STORY OF MAN

a pictorial pageant – through the ages from cave to satellite



1 PREHISTORIC TIMES

The first men
Cavemen
Villages of pile-dwellings
The age of metals

2 HISTORY BEGINS IN THE MIDDLE EAST

The Egyptians
The peoples of Mesopotamia
The Hebrews
The Cretans
The Phoenicians

3 THE GREEKS

Life in Athens
The gods and their temples
The Greeks and their neighbours

4 ROME AND THE ROMAN EMPIRE

The conquest of the ancient world
Rome under the emperors
The early Christians
The eastern Roman Empire

5 THE GREAT INVASIONS

The Franks
The Arabs
The Angles and Saxons
The Vikings

6 THE AGE OF FEUDALISM

The lords and the serfs
Life in the towns
Pilgrims and Crusaders
The fairs
The cathedrals

7 OTHER CIVILISATIONS

The Indians
The Chinese
The peoples of the New World

8 THE MARCH OF PROGRESS

The great discoveries
Towards a better life
The nobles and the merchant class
Workmen, artisans and peasants

9 THE CONQUEST OF NEW LANDS

10 THE WORLD GIVES UP ITS SECRETS

11 OUR OWN TIMES

Energy in the service of man
The life we lead
What of tomorrow?

THE STORY OF MAN

Tourists visiting a cave which may have been the home of their ancestors 35,000 years ago

Here is the story of the long, hard, passionate struggle of man in his efforts to dominate the world, the story of his labours, his discoveries, his sufferings and joys. When did that struggle start? We cannot say exactly. At least 600,000 years ago, perhaps much earlier. We know next to nothing about the first men in the world except that their lives were hard and dangerous, and that many must have died of hunger or been killed by wild animals; nor did the conditions improve for many thousands of years.

We can only form a picture of how man lived in his early days by studying the things he made which have come down to us. The first men to have left us a sufficient number of objects are those who lived in caves some 35,000 years ago. But, though we know much more about their lives than we do about those of their predecessors, we have no idea, for instance, of the names of their chieftains; and though we know they lived in small groups we cannot tell what happened to any particular group. The reason for this is that they could not write. They were thus unable to tell us what they did, what their laws were, who were their gods, or what prayers they made to them. We do not even know whether they had any gods at all.

Writing was only invented 6,000 years ago—by people living on the shores of the Mediterranean in the region we call the Middle East. That makes it seem a very recent invention when we think of the long time that has gone by since human beings first appeared on earth. We only know history accurately from the time facts began to be written down. Because writing was invented there, it is often said that history began in the Middle East. All the previous ages are called Prehistoric times, that long, long sequence of unchanging years during which man invented his first weapons to guard against the perils by which he was surrounded.

1 PREHISTORIC TIMES

The first men

Men watching while others sleep

The first men

About 600,000 years ago

Thanks to various bones that have been dug up, we are able to form a picture of the first men. They had very receding jaws and sloping foreheads, and they probably walked like apes, leaning forward with backs rounded and knees bent.

The first men lived in small groups. Their one and only occupation was to find enough to eat. It took all their time, for they knew nothing about raising crops or breeding animals. They ate the roots and fruit of wild plants, but as that was not enough to feed them they had to resort to fishing and hunting to keep themselves alive. Unfortunately their weapons were very primitive. A wooden club or an axe made of a stone fixed on the end of a stick were not much use against such formidable opponents as the bear, rhinoceros, or sabre-toothed tiger. While the less dangerous animals, such as deer, antelope, or horse, were always able to run away when hunted.

A feast

To obtain their food, men had to cover great distances, following the herds that were constantly moving on to fresh pastures. They had no homes; they slept as best they could wherever the hunt had chanced to take them, sheltering in caves, in rocky hollows, or on islands. When there was little to hunt, men went hungry, and many died.

Then came the time when glaciers streamed down from the north, covering all Europe, making it look like Greenland does today. Men suffered from the cold, and they clothed themselves in the skins of animals. They knew of fire, for they saw it come down from the sky in the form of lightning setting fire to bushes, and they dreamt of mastering it. One day they did so, either by collecting some embers of burning sticks or by striking a spark between two pieces of flint.

Once they were able to make fires, their existence improved for they were able to cook food. With fire they could also frighten away wild animals, and it helped them to make better weapons. Tired at the end of the day, men gathered round their fires at night. There they related their exploits and passed on to one another what they had learnt; and little by little man was better able to hold his own in the world.

Cavemen

About 35,000 years ago

Hundreds, thousands of years went by. Long periods of cold were followed by long periods of heat. Europe (once again in an Ice Age) had now come under the hands of another sort of man, tall, straight, and well-built; a man in fact, of the same race as we are. Like their forerunners, the Cavemen lived in small groups and spent their days hunting, but they had become more skilful, knowing how to make tools such as chisels, scrapers, and awls, with which they could cut stone, scrape wood, or hollow out horns and bones. Their spears and harpoons, tipped with sharpened flints, became deadly weapons, as were their axes, which were also made of flint and were more securely fixed to their handles than in earlier days.

Caveman, our ancestor

Life in a cave

Camping in the open

It was now less risky for men to attack large animals, the bison or even the gigantic mammoth. For the swifter animals, the reindeer or the horse, they made traps. When there was plenty to hunt, they would stay for months in the same region, generally living in caves, which gave shelter from the cold and from prowling animals.

Some of them were already artists. On the walls of their caves they cut or painted pictures of the animals they came across in daily life. The women learnt to make clothes by sewing skins together with hairs threaded into bone needles.

In the big open plains, where there were no caves to be found, men constructed rough huts roofed over with branches, furs, or earth. They too drew pictures on stone or bone of the animals they knew.

▲ *Men have domesticated animals*

▼ *The first workers on the land*

Villages of pile-dwellings

About 8,000 years ago

When the cold had once again retreated to the north, a damp climate settled on western Europe. Prairies gave place to huge forests. The large herds of animals disappeared and men were forced to live on snails. But in the east, in the regions which had remained dry and less wooded, other men had begun to cultivate the soil and to breed animals.

This new way of life finally spread over the whole of Europe. Men were now gathered in large villages. Some of these were established on lakes, and the houses are accordingly called lake-dwellings or pile-dwellings. They stood on a wooden platform supported by piles driven into the bottom of the lake. A foot-bridge joined the village to the mainland. In case of alarm, the inhabitants took refuge in the village, and by removing a section of the foot-bridge were safe from attack, whether from men or animals.

Working on the land now absorbed the time that was formerly devoted to hunting. Tools and weapons were made of a stone harder than flint, a stone men had learnt how to polish, drill and fine down. But it splintered easily. Despite all their efforts, the

Funeral of a chief under a cromlech

A village of pile-dwellings

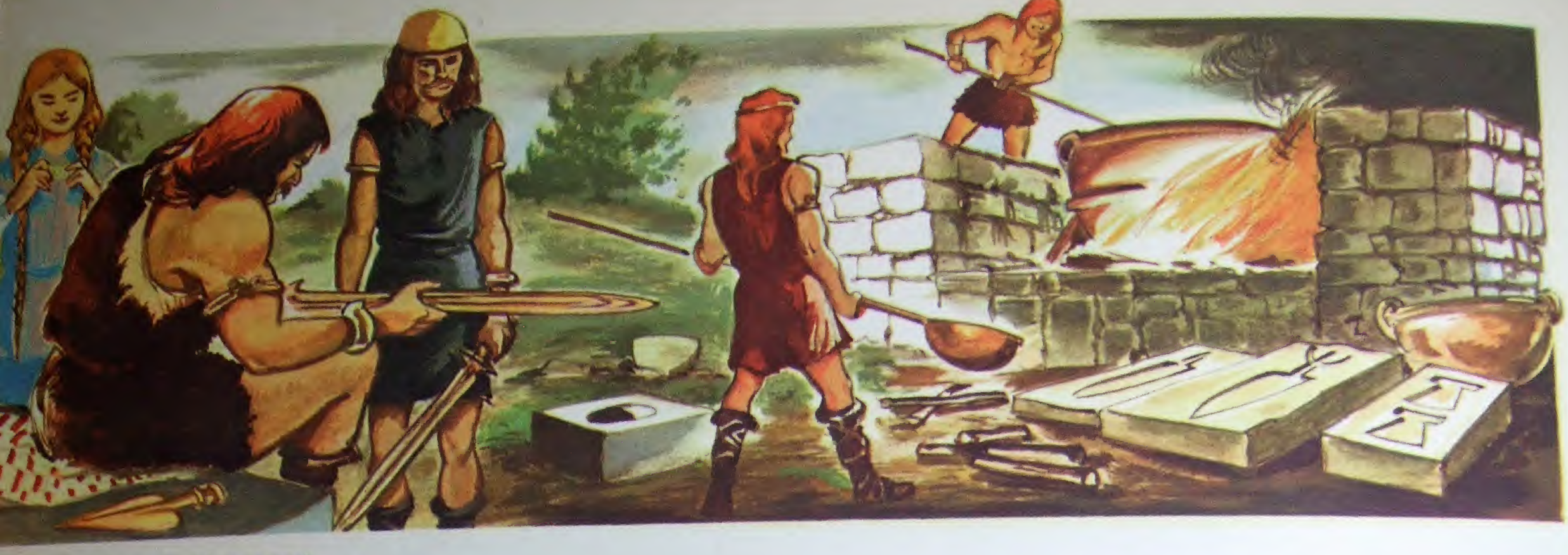
crops of these primitive farmers were poor. So if there was no fish or game, they had to slaughter their domestic animals, and if that failed to keep them going the village starved.

While the men worked on the soil, the children drove the cattle out to graze. They also gathered osiers growing by the lake-side and learned to weave them into baskets. The women spun cotton and linen and wove stuffs for clothing and bedding.

The inhabitants of these lake settlements were very skilful. They moulded clay into pots of various forms, decorated them with pretty patterns, then baked them in hot ovens. The clay was hardened by the heat, and when the pots were removed from the oven they would keep their shape . . . until they were broken.

At this time, men sometimes made monuments of long upright stones called menhirs. They also made monuments of long, flat stones, called cromlechs, under which they buried their chiefs. Menhirs and cromlechs are among the most ancient monuments in the world. They can still be seen in some parts of Spain, France, and England.

With life less dangerous and food more plentiful, men increased rapidly in numbers. If they did not wander about like their ancestors, they none the less conserved a taste for travel and discovery. On horseback they rode far out into the dense forests which surrounded their settlements, and on hollowed tree-trunks they voyaged up or down rivers. Sometimes their explorations would bring them to the gates of another village, and whether there was peace or war depended on how they were received.



Bronze founders at work

The age of metals

5,000 years ago

Men discovered metals and learnt how to make use of them.

Probably streaks of copper or tin were noticed one day in the stones with which they built their ovens, and in the heat of the ovens the metals must have melted. Astonished at first, men must eventually have realised the advantages to be obtained from this change in metals under heat. With that they began looking for these valuable substances. Putting pieces into an earthware pot, they heated them on a fierce fire. When the metal had melted, it was poured into a mould shaped in the form of the object desired. Taken out of the mould before it was completely hardened, the object could be finished by hammering and sharpening.

A house in the bronze age

Weapons and tools made of stone were gradually replaced by those made of copper and later of bronze, which is a mixture of copper and tin, harder than pure copper. Later on, bronze was in turn to be replaced by iron.

Men now made helmets, breastplates, and shields of shining metal, and strong sharp swords. The chiefs covered themselves with jewels, and their horses were luxuriously harnessed. Women too shared the advantages of this progress. Besides their earthen pots and wooden bowls, they now had copper cauldrons and dishes. They wore necklaces and earrings made of thin leaves of metal which shone like the sun with every movement of the head.

The implements employed in agriculture improved. Ploughshares were made of bronze instead of stone. The constantly increasing range of man's handicraft prompted him to invent saws, anvils, tongs and other tools as well as to improve the old ones. It now became necessary for men to specialise, that is to say, to keep to the work they were capable of doing best. Thus some

Evening by the fire-side

After the battle: the losers were reduced to slavery

became potters, others carpenters, weavers, smiths or foundry workers, though farming remained the commonest kind of work.

Men's settlements were encircled by palisades. Their one-roomed huts were built of mud and wood, and the only furniture were beds of beaten earth. Since there were no chimneys, the smoke of the fire had to go out by the door. To enter these huts one had to go down several steps or a ramp.

In the evening the inhabitants would meet in the village square. There they might listen to a long and beautiful story sung by a minstrel, or they might dance to the music of hollowed reeds and drums made of wood and stretched skins.

Settlements gradually grew into towns. The large towns often wanted to lord it over their neighbours, and then wars broke out. They did not last long, for a single battle generally decided the matter. Those who lost were massacred or reduced to slavery, their homes were looted and burnt down.

But often neighbouring towns remained on friendly terms, particularly when they were rich in different ways, each people being content to exchange their surplus goods for those they lacked As commerce grew, merchants travelled far and wide, carrying with them food, clothing, or utensils of various sorts. They always followed the same routes, stopping at the gate of the towns they came to. Thanks to them people saw, handled, and ate things that were new to them; thanks to them the more backward peoples, living in the cold regions of the north, learnt to make use of the discoveries made by the more advanced peoples living in the warm countries at the eastern end of the Mediterranean.

Commerce between one settlement and another: merchants exchanging goods

2 HISTORY BEGINS IN THE

The Middle East! For men living in Europe more than five thousand years ago, the Middle East meant that far-away part of the world from which came caravans laden with arms and strange foods, cloth of every colour and sparkling jewels; it was the mysterious country in which everything was new.

Merchants brought back tales of gigantic cities built on the banks of great rivers or on the shores of the Mediterranean. They spoke of great and powerful kings, before whom all men bowed down, and of vast crowds gathered before the temples of the gods. The merchants had not seen these things for themselves, but they had heard of them from other merchants coming from still further. And the men living in Europe dreamt of those marvellous regions they would never see.

The Middle East! There the scattered groups of men had come together to form the great peoples of Egypt, Mesopotamia, Palestine, Crete and Phoenicia, the people who created the first civilisations.

The Egyptians

From 4,000 to 600 B.C.[1]

The Egyptians lived, as they still do, on the banks of the Nile, having installed themselves in the narrow valley cut by the river across the desert and in the marshy regions of its delta. And every day they prayed that the water would never stop flowing, knowing well that if the Nile dried up, their country would soon turn into a desert under the fierce heat of the sun.

MIDDLE EAST

Every year, from June to October, the Nile overflowed its banks, flooding the valley and at the same time depositing mud. This mud fertilised the soil and thus produced, good crops. All the year, boats and galleys went up and down the river, carrying goods from one town to another. The Nile also offered food in the form of abundant fish and waterfowl such as ducks and cranes. Lotus and papyrus grew in the marshes, the lotus being a beautiful water-lily much used to decorate the houses of the rich, while paper was made from the papyrus.

On this paper, the scribes wrote in hieroglyphics, little drawings which composed one of the world's most ancient forms of writing. The scribes were much respected for, at that time, few people knew how to write. They had the task of recording all that had to be remembered—prayers, laws, inventions, or merely the stocks held by the all-powerful Pharaoh in his storehouses.

Constantly surrounded by ministers, priests, officers, and scribes, Pharaoh was the absolute master of Egypt and the Egyptians. His subjects looked upon him as a god and trembled when they spoke to him. Of all that was grown on the land, he

---

[1] As you know, our dates are reckoned from the year Jesus Christ was born. When we say that Boadicea fought the Romans in the year 61 it means that sixty-one years went by between the birth of Christ and the attack by Boadicea. When we say that the first artificial satellite was fired from the earth in 1957, it means nineteen hundred and fifty-seven years after the birth of Christ. Thus the nearer the event is to us the higher the number.

But when we give the date of happenings before the birth of Christ (B.C.) it is the other way round; the further away the event, the higher the number. Thus what happened six hundred years before Christ is a much more recent event than what happened 4,000 years before Christ.

A scribe recording the crops hoarded in Pharaoh's storehouses

The Nile is the making of Egypt. All the life of the Egyptians is centred around it

▲ *A street in Memphis*

▼ *Embalmers closing the wooden coffin containing a mummy*

took the largest share. When other countries were conquered, their wealth belonged to him, and thousands of slaves worked for him. It was for him that copper was mined in Mount Sinai, gold in Nubia. His caravans left Egypt laden with arms and jewels and returned with the perfumes and precious woods for which they had been exchanged. His palaces rose high above the roofs of the houses in Memphis, Thebes and Akhetaton.

The big towns of Egypt were full of life, the streets crowded with water-carriers, soldiers and pedlers. Barbers shaved their customers in the street, and past them shepherds would drive their flocks along; or a member of Pharaoh's family would go by, carried on a litter, with a slave in front, lashing right and left with a whip to make the crowd give way.

Workshops were open to the street, and, looking in, one could see carpenters at work, bakers, brewers, or jewellers. From the banks of the Nile came the hammering of the shipwrights. Each workman brought up his sons to follow him in his trade.

But the bulk of the population was formed of poor peasants. Gathered in small villages built on rising ground, they had nothing to eat but oatcakes and unleavened bread, with a little fish and fruit, nothing to wear but a simple loin-cloth. They had to work very hard indeed, for they had to build dykes to hold back the mud deposited on the soil, and watercourses so that their land could be irrigated when the floods were over.

The Egyptians were very religious, and they worshipped many gods. Some of their gods are shown in statues with a human body and an animal's head. Seth, the god of the desert, for example, is given the head of a greyhound, while Thot, the god of knowledge has that of an ibis. The greatest of all was Ra, the sun-god.

Statues of these gods in wood or stone, carved by able sculptors, stood in the vast temples of granite and sandstone, where they were honoured by the priests.

The Egyptians believed there was another life waiting for them after death, but only if their bodies were preserved from destruction. That is why those who could afford it had their bodies embalmed. The embalmers removed all that was most liable to decay, then, after soaking the body for several days in brine, they stuffed it with scented, aromatic plants. Bandaging the body, they put it into a wooden coffin, which in turn was placed in a stone one,

The building of one of the pyramids

called a sarcophagus. Lastly the sarcophagus was placed in the tomb, and there the family brought objects that had belonged to the dead person when alive. On the walls of the tomb a scribe painted scenes of the dead person's life. Some of these embalmed bodies have been found in modern times. They are called mummies.

The richer the person, the richer his tomb. Naturally those of the Pharaohs were the richest of all. Some of them ordered a huge pyramid to be built in the centre of which their sarcophagus was to be placed and those possessions they desired to have with them after their death. Think of the vast labour that went into the making of those pyramids. Enormous blocks of stone had to be cut, carried by ship, then slowly hoisted into place up inclined planes. Thousands of men must have spent their whole life at the work.

Built more than 4,000 years ago, the pyramids still dominate the Nile. The highest of them is 453 feet high. Travellers stand at the bottom gazing up at them, and their minds go back to those wonderful Egyptians who were so hard-working, so inventive and artistic, and from whom the world has learnt so much.

Mesopotamian peasants watering their crops from canals

The peoples of Mesopotamia

From 4,000 to 600 B.C.

Mesopotamia is a long plain lying between the Persian highlands and the Arabian desert. Two great rivers run through it, the Tigris and the Euphrates. The peoples who lived there were as advanced as the Egyptians. They ran canals from their rivers to carry water to their fields. They built beautiful cities, the most famous of which was Babylon, enclosed by a wall ten miles long. Its great bridge over the Euphrates, its Hanging Gardens, its palaces, and its temples (dominated by high towers called zikkurats), were admired all over the East. Unfortunately there was no local stone to build with; so many of the monuments were made of sun-dried bricks, which did not last long.

The Mesopotamians too invented a form of writing, called cuneiform, which is made up of little signs like nails. They were written by scribes on silver plates with the tip of a reed. Each plate corresponded to the page of a book. Such books were naturally very cumbersome, and huge libraries, such as only a king would possess, were needed to store them.

The kings of Niniveh were fond of hunting lions and tigers

Every king wanted to lord it over his neighbour; so wars were frequent. Sometimes one of them succeeded for a while in ruling over the whole of Mesopotamia. Like Pharaohs, the Mesopotamian kings were always surrounded by notables, and they possessed innumerable slaves. Slaves, branded with a red-hot iron, were sold in the market to any rich man who might come along, for the same price as a donkey.

On the left is a zikkurat

King Nebuchadnezzar walking in the Hanging Gardens of Babylon

The Hebrews held a great market under the arcades of Jerusalem

The Mesopotamians traded freely with neighbouring peoples. Merchants crossed the desert on camels, or they went down the rivers in round leather boats.

Like the Egyptians, the inhabitants of Mesopotamia worshipped a host of gods. The most honoured was the god Marduk and the goddess Ishtar. The priests went right up to the top of the zikkurats to pray and also to observe the movements of the stars by which they hoped to look into the future. These priests studied numbers and were thus very good at calculating and measuring.

a boy by killing the Philistine giant, Goliath, with a sling and a stone. Another, Solomon, built a splendid temple to God in Jerusalem, the biggest town in the country.

For the Hebrews worshipped a single God. And God did not command them merely to be just, but also to love one another. His commandments were given to Moses in the wilderness.

The story of the Hebrews is contained in their great book, the Bible, which contains the Psalms and the Laws of Israel.

▲ *Hebrews chatting round the cool waters of a spring*

▼ *The Hebrews wrote a great book: the Bible*

The Hebrews

From 1,800 to 600 B.C.

The Hebrews lived in Palestine, the country lying between the Arabian desert and the Mediterranean, a country neither large nor rich. But they were glad enough to settle there to work on the land; for hitherto they had for ages been wandering shepherds in the desert.

The Hebrews were often fighting the Philistines, unfriendly neighbours who were always wanting to grab their land, but the Hebrews held their own, thanks to the courage and wisdom of their kings. One of these kings, David, distinguished himself as

A Cretan port. Ships came and went continually

The Cretans

From 3,000 to 1,400 B.C.

A big island in the Mediterranean, with busy ports, fine towns lying in the plains, and villages perched up on the slopes of the mountains—that is the picture of ancient Crete, a country inhabited by people who had come from overseas and were thus born sailors.

In their long, narrow ships, they ventured on the open sea without fear of storms. Sometimes by sail, sometimes by oar, they went to Egypt, Greece, and even to far-away Spain. They sold olives and wine and beautiful vases decorated with birds, fish, or fruit. Returning home, they would bring cargos of copper, tin, and silver. Skilled craftsmen worked on these metals and were famous for making arms and jewellery, which would again be shipped to other countries.

Many Cretans, having made their fortune in trade, built themselves fine houses three or four stories high, with balconies at the windows and a roof-garden. Inside, the walls were decorated with paintings. Some of these houses had bathrooms and main-drainage, for the Cretans were lovers of comfort. They often met to listen to music or to dance. The women took a lot of trouble over their appearance and wore elegant dresses.

The king lived at Cnossus, a large part of which was occupied by his palace. In it were richly decorated rooms, chapels, workshops, with the finest craftsmen in the country, and enormous storehouses for the harvest. The king of Crete also governed the small islands nearby and even some of the towns on the Greek mainland. He was the chief judge and the high priest of the gods.

Religious festivals were held in the open air, and they were followed by sporting contests, in which wrestlers, boxers, and runners took part. But the young Cretans' great delight was sporting with angry bulls, playing a thousand mischievous tricks upon them.

Stories of these dangerous games were told by Cretan sailors in the Greek ports they called at, and these tales may well have contributed to a curious legend that has come down to us from the Greeks.

Minos, King of Crete, had a son with a human body and a bull's head. This monster was called the Minotaur. To hide it from

A scene in one of the big towns in Crete

Young Cretans bull-baiting

view, the King kept it in a labyrinth, whose twisting passages were so complicated that no one who got in could find his way out again. The Minotaur was fed on youths and maidens taken from the towns of Greece that Minos had conquered.

One day, however, a Greek prince called Theseus smuggled himself in with the others, for he had sworn he would kill the Minotaur. Thrown unarmed into the labyrinth, he killed the monster with one blow of his fist. The next thing was to get out. This he would never have done without the help of Ariadne, daughter of Minos. She had seen the young prince with the other prisoners and had promptly fallen in love with him. She had given him a spool of thread, telling him to unwind it as he entered the labyrinth. By following the thread back, Thesus was easily able to find his way. Taking Ariadne with him he hastily left the island.

Plan of a labyrinth. Try to find your way in and out along the passages shown by the black lines ►

The Phoenicians made their ships watertight by stopping up the seams with pitch

Phoenicia. The Phoenician alphabet

The Phoenicians

From 1,600 to 600 B.C.

The Greeks invaded Crete and Cnossus was reduced to ruins. The island's ports gradually silted up and the ships fell to pieces. But other ships now appeared upon the seas.

These belonged to the Phoenicians who were still greater seafarers and traders than the Cretans. Phoenicia was a narrow strip of land, lying between the sea and the mountains, to the north of Palestine, too small to provide food for the whole population.

But at Tyre, Sidon, and Byblos, the chief ports of Phoenicia, the riches of the whole world could be found: brocades, and precious stones from Syria, perfumes from Palestine, vases of transparent glass made by Phoenician craftsmen, jewels from Egypt, sulphur from Sicily, gold from the Moroccan coast, and even tin from Britain. For the Phoenicians, more daring than the Cretans, had ventured out beyond the Mediterranean into the stormy Atlantic. One intrepid navigator even took his ship round the Cape of Good Hope and up the other side of Africa.

These achievements were possible to the Phoenicians because they had discovered a way of making their ships watertight. They stopped up the seams with pitch, a sticky liquid when hot, which dried hard and held the timbers together. Anxious to keep their invention secret, the captains were ordered to sink or burn their ships rather than let them fall into the hands of strangers.

The Phoenician merchants invented something still more important. When making lists of their wares, they found Cuneiform writing, with its multitude of signs, clumsy and complicated. Looking for something simpler, they invented an alphabet of 22 letters, the first alphabet in the world.

It is that alphabet which served as a model for ours.

Phoenicians trading with the Ancient Britons

3 THE GREEKS

Constructing a galley at Piraeus

From 1,500 to 330 B.C.

A country slashed to ribbons, streaming out into the sea—that is how Greece appears with all its promontories and islands. It is a country naturally poor, being mostly mountains with only narrow valleys in between. In those valleys were built the cities of Ancient Greece, independent cities that were constantly fighting each other. Many Greeks left the country to form colonies on the coasts of Asia Minor, Sicily and southern Italy.

A great upheaval took place in the East. An enormous army came down from the Persian plateau, overran Mesopotamia, destroyed the Phoenician towns, and even forced the great Pharaoh

to leave his throne. About 500 B.C. the Greek colonies in Asia Minor were attacked. With that, the Greeks rose up all together and beat the great Persian army both on land and sea. This was a decisive moment of history. Within a few years, Greek ships (with no Phoenician ships now to compete with them) covered the Mediterranean. New colonies were founded. The Greek towns grew, and their trade made them wealthy.

Thanks to the wisdom of its laws and the beauty of its monuments, one of these towns, Athens, became the most famous of all. Still today, it is first and foremost of Athens that we think when we speak of Ancient Greece.

Banquet in the house of a wealthy Athenian

Market-place in Athens. On the left, in the distance, is the Acropolis

Life in Athens

The market-place in the centre of Athens, was crowded from first thing in the morning. At their stalls, grocers, butchers, and fishmongers cried their wares. Housewives trotted busily to and fro, many of them accompanied by a slave, who carried their purchases. Peasants came in from the surrounding country to do their shopping and sell their produce, as well as to hear the latest news, which old men discussed gravely as they sat basking in the sun.

Youths went by in groups, discussing the problems of the day, sometimes stopping to listen to one of their elders speaking of freedom and describing how the city ought to be governed. For the Athenians were free citizens and they voted every year for who should rule them.

Ship-owners and bankers went briskly by, on their way to Piraeus, the port of Athens, two and a half miles away. There they

Boys at a gymnasium

would be greeted by the sounds of the harbour: the warping of vessels, the hoisting of cargo, the hammering of shipwrights at work on one of the slipways, building a trireme—that being a galley with three rows of oars. Sweating men ran hither and thither, carrying sacks of corn or pitchers of oil or wine. One had to shout to make oneself heard.

Meanwhile the younger boys would be at the gymnasium, learning to read, to count, to sing, and to play a musical instrument such as the lyre or the flute. They also did a lot of gymnastics and practised various sports. On holidays they bowled hoops and played knuckle-bones.

Girls did not go to school. They stayed at home with their mothers, learning cooking and housekeeping, spinning and weaving.

Greek women had not the same rights as men. They could not take part in banquets, in which the guests, reclining on couches, ate wonderful dishes, surrounded by musicians and dancing-girls

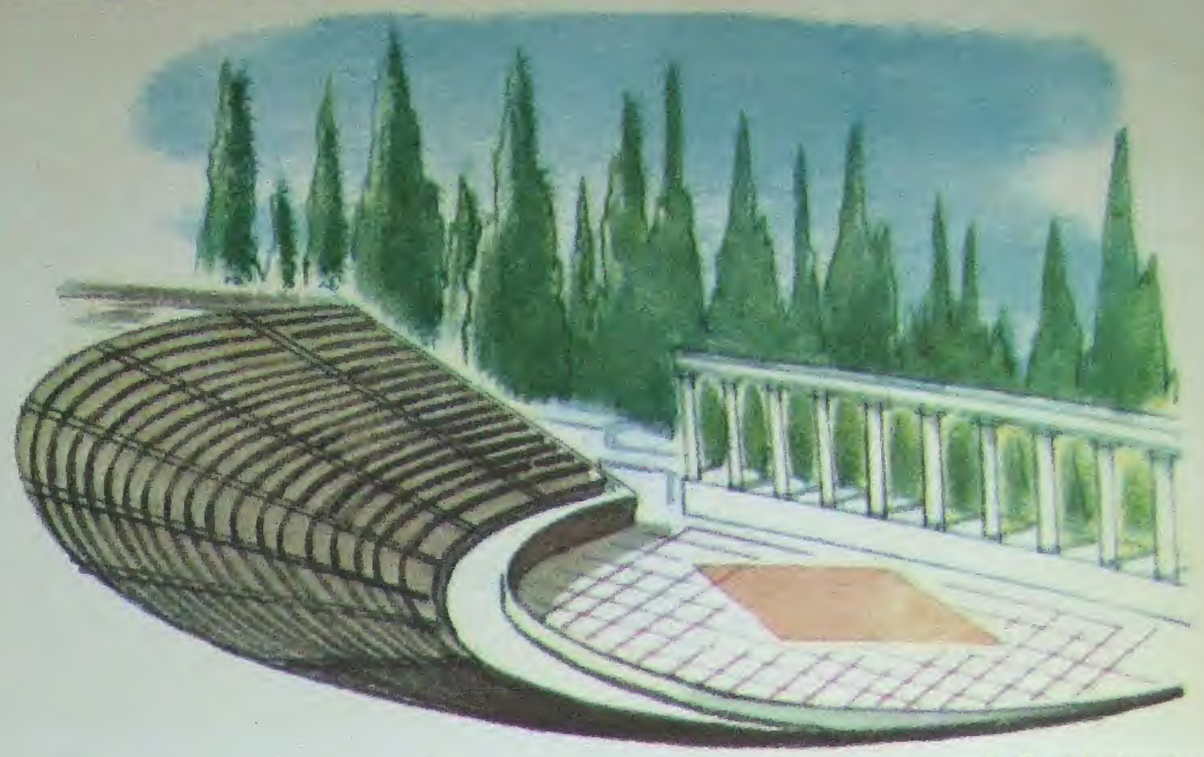
Daughters stayed at home with their mothers

from Asia. Women were not allowed to go to the theatre. Plays were performed in the open air, for the theatres, built on the hillside, had no roofs. As girls passed one, they would look with regret at the semi-circular rows of seats, on which their fathers and brothers would sit for a whole week every year. They knew the plays performed there were very beautiful, but also that they would never be able to see one.

Every fourth year, all over Greece, men would leave their homes to gather on a given date at Olympia, where the best athletes in the country competed at running and boxing and throwing the discus or javelin. At the chariot-races, the crowd would go wild with excitement. The winners were given a great reception when they returned home. These sporting competitions were called the Olympic Games, and they became so famous that the name is used today for the great international sporting events that take place every four years.

Chariot-racing at Olympia

The building of the temples on the Acropolis



A Greek theatre

The gods and their temples

The gods of the Greeks had human heads and bodies, but they were much taller and stronger than men. They fed on a marvellous food, called ambrosia, which made them live for ever. The gods and goddesses formed a big family, at the head of which was the all-powerful Zeus. Throned on the snowy peaks of Mount Olympus, Zeus ruled over the whole world and sometimes threw his thunderbolts down on men. A brother of Zeus, Poseidon, ruled over the sea. Another brother, Hades, ruled over the lower world, in which the shadowy forms of the dead lived a silent, dreary life.

Zeus had many sons and daughters: Hermes, the messenger of the gods; Hephaestus, the smith; Artemis, queen of the woods; Apollo, the charioteer of the sun. But the favourite child of Zeus was Athene, a wise goddess who took special care of Athens.

Of all the temples the Greeks built in honour of their gods, the most admired are those they built on the Acropolis, a rocky hill overlooking Athens. They took nearly a hundred years to build and they were decorated with magnificent statues of marble, bronze, and even gold, for the sculptors wanted to make them as beautiful as the gods they represented.

To please their gods, the Greeks offered them fruit, honey and cakes; they sacrificed bulls, sheep and horses. When they drank wine, they always spilt a few drops as an offering to the gods. Some people went on pilgrimages to holy places, a favourite one being Delphi. There, in the temple of Apollo, sat a girl on a three-legged stool. Vapour rising from cracks in the rock all round her sent her into a trance. Visitors used to put questions to her about the future, and she would answer with wild, incomprehensible words. Only when the priests had interpreted these words could the visitors understand the prophecy.

The Greek gods and goddesses.

From left to right: Poseidon, Hermes, Zeus, Athene, Apollo, Hephaestus, Aphrodite

▲ *Greek merchants arriving in a foreign land*

▼ *Greek travellers describing their country*

The Greeks and their neighbours

The Greeks were great travellers. Their ships went to every corner of the Mediterranean and their caravans rode from end to end of Europe. When trading abroad they observed how others lived, and when they noticed a wise custom they adopted it.

On the other hand they told people about Greece and all the wonderful things there, such as the Olympic Games and the beautiful temples and statues. They talked also about their great scholars: the historians who wrote down all that happened in the country, the geometers who were trying to work out the size of the world, the philosophers, like the famous Socrates, who taught men to reflect, to understand themselves, and to distinguish justice from injustice. They told people all they had learnt in their travels about the world; they explained some of their inventions, like the multiplication table; and above all they taught that liberty was the greatest thing of all.

All the other peoples respected the Greeks. Sometimes they tried to imitate them.

Unfortunately the Greek towns began fighting amongst themselves again. Taking advantage of this, the king of a neighbouring country, Macedonia, attacked them. Divided as they were, the Greeks were beaten, and now they lost that freedom they loved so much. Under another Macedonian king, the ambitious Alexander the Great, they were led to war against the immense Persian empire. The Greeks only escaped the domination of Macedonia to come under that of the Romans.

The conquest of Persia by Alexander the Great

Romulus with a plough, marking the boundary of Rome

4 ROME

From 753 B.C.

The conquest of the ancient world

When the Greeks were masters of the Mediterranean, few people had ever heard of Rome, for it was just a small town, much like any other small town in Italy. The Romans themselves had only one ambition: to prevent their neighbours from grabbing any of their land.

Hard-working, thrifty peasants, they were transformed into hardy, disciplined soldiers at the least threat of danger. They just took off their togas, the woollen garments they usually wore, put on their armour and picked up their broadswords. In camp, as at home, their food was chiefly oaten gruel, bacon, and cabbage. Beaten, they had only one thought: the day of their revenge. Victorious they marched in triumph through Rome, while the crowd cheered the commander-in-chief who rode in a chariot drawn by four white horses, with prisoners in chains being driven in front.

In peace-time, when work was over, the Romans gathered in the Forum, the most important place in the town. There they walked about in little groups talking loudly and gesticulating. If an argument arose, everyone joined in, for the Romans had a passionate feeling for justice and had always something to say on matters of rights and duties.

They were very proud of their town. According to them, Romulus, son of Mars, the god of war, had marked the limits of their territory with a plough. And Romulus, they said, was followed by six other kings. After that Rome became a republic, like Athens. Every year two consuls were elected to govern it. The consuls were assisted by the senators, three hundred men of wealth who were fathers of families.

The Romans built aqueducts to carry water to the towns

AND THE ROMAN EMPIRE

to 476 A.D.

The Roman Empire

in the time of Emperor Hadrian

frontiers shown on the map by a wall were in ity protected by a string of forts

Little by little, as the years passed, the power of Rome increased. After long wars, she became mistress of the whole of Italy. Two hundred years later, Spain, Gaul, Macedonia, Greece, Asia Minor, Egypt, and North Africa had come under her sway. But these conquests had cost a vast number of soldiers' lives; a vast number of towns were destroyed. Rome itself had more than once narrowly escaped that fate.

In every country they conquered, the Romans made roads and built bridges, to enable their armies to move about as well as to encourage trade. They also built aqueducts to bring water to the towns. Ready to educate more backward peoples, they did not hesitate to learn from those who were more cultured. On the one hand they taught the Britons to build good houses and roads; on the other they adopted the Greek gods, though they worshipped them under different names. The Greek Zeus became the Roman Jupiter, and Aphrodite became Venus. And from the Greeks they learnt to love music, dancing, plays, beautiful objects and comfort.

Then the time came when Roman generals, made conceited by their victories, wanted to rule the country in place of the consuls and the senators. Jealous of one another, they led their armies to war against their rivals. In the year 49 B.C. one of these generals, Julius Caesar, became master of Rome, and for the next five hundred years the country was governed by emperors.

Some of these emperors were very cruel, causing the death of many. Fortunately there were others who were competent and just. One of them built a string of forts along the frontier of the Empire, and in them soldiers kept a constant watch. In that way he hoped to keep at bay the Barbarians, the ignorant and brutal people who lived in the distant unçivilised countries, and who were only too ready to attack the towns within the Empire.

he triumphal procession of a Roman general in the time of the emperors

A gladiator fighting wild animals in the Colosseum

Rome under the emperors

Rome was now the greatest city in the world, with a population of a million. Travellers came from distant lands to see it, and they were astounded by the number of beautiful monuments. Greatly did they admire the temples and palaces, the colonnades and the triumphal arches which celebrated the emperor's victories, the basilicas where judges and lawyers assembled, the theatres, circuses arenas, and the magnificent buildings that contained not only baths of every sort, hot, tepid and cold, but also libraries, halls for gymnastics, and rest rooms.

From morning to evening the streets, which were very narrow, were crowded by people of every description: bankrupt peasants come to live in town, former soldiers, slaves who had been set free by their masters. Lots of them were out of work, but they clamoured for food and for amusement. So the emperor provided circuses for them, and he also distributed flour and corn.

No mercy for the defeated!

A Roman bath

Most of the unemployed, however, were kept going by the rich, who owned large country properties producing wine, oil, fruit and vegetables. All this produce was carted or shipped to Rome, and much of it was given to the poor in return for small services. For the rich liked to have a lot of dependants, who would pay court and follow their benefactors when they walked about.

Wandering about the streets, going into taverns to drink or read the paper—for there were newspapers in those days—going to the baths, giving a hand to merchants unloading their carts: those were some of the occupations followed by a Roman.

The best days of the year were those on which the emperor gave a holiday. Then the people flocked to the circus to see the chariot-races, or to the Colosseum to see the gladiators, who had to fight against each other or against wild animals. When a gladiator fell, wounded by another, the emperor, who presided over these cruel sports, held out his hand, asking advice from the spectators. If the people wanted the unhappy man saved, the emperor raised his thumb upwards. If the thumb was turned down the man was promptly killed.

A bull being sacrificed to Jupiter

Boys at school

◀ *Houses easily caught fire*

Many Romans lived in houses several stories high, but the houses were of wood and had no chimneys. In winter people kept themselves warm with braziers, and often accidentally they set the house on fire. In those narrow streets the fire easily spread from one house to the next, and sometimes a whole section of the town was burnt.

The rich people lived in beautiful houses surrounded by spacious grounds. These houses were decorated even more sumptuously than the houses of the Cretans, their floors covered by mosaics or carpets, their walls by pictures, their couches by silken coverings, their tables by inlaid ivory. Interminable banquets took place every day. The Romans were like the Greeks in reclining at their meals, but were different in admitting women to them.

Most of the rich people knew Greek. Many of them had been to Athens, Olympia or Delphi. They read books written by the wise men of the past; they often went to the theatre. They were very keen on the education of their sons, but instead of sending them to school with other children they had them taught at home by a private tutor. To finish their education the boys would be sent to Greece for a few months, for Greece was still regarded as the centre of art and learning.

A meal in the house of a wealthy Roman

▲ *How the Romans travelled*

▼ *Slaves manning the oars of a galley*

The early Christians

At the time of the first emperors a new religion, Christianity, appeared in Rome. It came from Palestine, where Jesus Christ was born. He taught people to believe in one God in Three Persons, the Father, the Son, and the Holy Ghost. Jesus proclaimed Himself the Son of God, sent down to earth by God the Father. He gave hope of eternal life in paradise to all those who loved their brethren, to those who are just and charitable, to the poor and down-trodden, for He came, not as the God of one people, but of all men of good will.

Some of the Jews believed in Him, but others refused to believe He was the Son of God. He was condemned to death by His enemies and crucified. Three days later His disciples announced that He had risen from the grave and ascended into heaven. And they preached His gospel over all the world. The four evangelists, Matthew, Mark, Luke, and John, wrote books about Jesus, telling all that He had done and said. Many started worshipping the new God, and the Roman gods and goddesses began to fall into contempt. This made the emperors angry, and many Christians were taken and thrown to wild beasts for the amusement of the Roman people.

To escape persecution, the early Christians, when they gathered for prayer, hid themselves in the Catacombs, which were underground cemeteries. Then one day, an emperor, Constantine, became a Christian himself. From then on the religion was allowed and the number of Christians increased rapidly.

Early Christians praying in the Catacombs

Constantinople

The eastern Roman Empire

From 375 to 1453 A.D.

The time came when the forts on the frontiers were no longer able to defend the Empire. Every year Barbarian troops poured over the frontier, killing Roman soldiers and looting towns and villages before reinforcements could be sent by Rome. The Empire had become too big and news travelled too slowly. To make its defence easier, one of the emperors, Theodosius, had the idea of dividing it in two, and he created a western Empire centred on Rome and an eastern Empire centred on Constantinople.

A hundred years later Rome and the whole of the western Empire fell into the hands of the Barbarians. But the eastern

The building of Saint Sophia

A mosaic

Empire stood firm; in fact it lasted for another thousand years carefully preserving the books that contained all the learning of Greece and Rome, and helping other nations to become civilised. As Athens and Rome had been in the past, the capital, Constantinople, became famous all over the world.

With water on three sides, Constantinople was easy to defend, particularly as it had many warships. Its position at the junction of Europe and Asia, the quantity of roads that went off in either direction, the wealth of its shipping, and the skill of its craftsmen, made Constantinople the centre of exchanges between the nations, and it rapidly became rich.

Its size and beauty attracted many visitors. Some went to see the chariot-racing, which lasted several days, others to have a glimpse of the emperor and the important people who surrounded him dressed in silk and cloth of gold, yet others to see the palaces and churches, particularly the church of Saint Sophia, built at the order of Emperor Justinian, with its walls lined with marble of every colour, mosaics and a broad high dome above. Then there were people who travelled there to hear the priests discuss religious questions and how God should be obeyed. But the chief attraction was to mingle among the elegantly dressed people who thronged the streets, chattering in Greek.

The Huns

5 THE GREAT INVASIONS

From 400 to 1000 A.D.

Bands of armed warriors galloping off to meet the enemy, starving villagers wandering about the country, blazing houses, abandoned roads overgrown by nettles and brambles—that was the picture presented to the few merchants who ventured to travel in those parts of Europe that formerly had been under the domination of Rome.

In this epoch men no longer had any taste for learning. What they knew was gradually forgotten. Instead of building fine towns and making beautiful things, as their ancestors had done, their one thought was to get enough from the land to keep body and soul together and to feed the Barbarian hordes that preyed upon them.

Of these hordes there were many: Franks, Angles and Saxons, Visigoths, Lombards, Vandals, and others as well. Their kings dreamt of reconstructing the Roman Empire, but each wanted to be the emperor himself, so they spent their time quarelling and fighting. The most brutal of all were the Huns, horsemen from Asia, before whom even the bravest fled. To drive them away, the other peoples would have had to combine and form a united army.

Fortunately several of the Barbarian kings were converted to Christianity, and as Christians they did to some extent obey the Pope, who lived at Rome and was the head of the Church. And the Pope did his best to make them more just and less brutal. On the other hand, Christians began to gather in fortified convents, where they were free to devote themselves to God and to study from such books as had been preserved.

Still more invasions took place. Arabs, Vikings and Hungarians invaded Europe one after the other. Centuries were to go by before the great nations we know today rose from the ruins of the Roman Empire.

The Franks raise upon a shield the man who is to be their king

The Franks

The Franks succeeded in dominating the whole of what the Romans had called Gaul, and the country, named after its new masters, came to be called France. The Franks were tall, fair-haired warriors, who fought with swords and double-headed battle-axes. Unfortunately when the king died, he divided the kingdom between his sons. Each of the sons wanted it all, so the Franks were led to fight among themselves.

There was much stealing and many people were murdered. Justice was swift and terrible . . . but not always very just. A man suspected of a crime was put through various ordeals. For instance he might be made to pluck a red hot iron from the fire. If he was not burned he would be found innocent. A man might be allowed to get away with killing another man if he paid 'blood-money' to the victim's family.

Life began to be more orderly in the time of Charlemagne, the greatest of all the Frankish kings, who took the title of Emperor of the Holy Roman Empire, being crowned by the Pope in the year 800. Charlemagne opened schools, built churches, and encouraged craftsmen, particularly goldsmiths. His orders were carried by horsemen to every corner of the country and they were usually obeyed.

▲ Trial by ordeal

▼ A goldsmith's workshop

The Arabs

Living in the Arabian desert were men who kept flocks of sheep or goats. The wealthiest Arabs were the merchants who rode across the desert on camels carrying goods from town to town. They worshipped invisible spirits.

But an Arab called Mohammed came to preach a new religion, telling people there was only one God called Allah, and that he, Mohammed, was his prophet. The commandments of Allah, collected in a book called the Koran, were very like those which our God gave to Moses. But Mohammed told his followers to make war on all who worshipped any other God than Allah.

Under the orders of Mohammed and the Caliphs who succeeded him, the Arabs conquered Mesopotamia, Syria, Egypt, North Africa, and Spain. They were beaten at Poitiers by Charlemagne's grandfather, Charles Martel, who stopped them spreading further into Europe, but in the East they invaded India and reached the frontiers of China.

Enriched by their trade with Europe and Asia, the Arabs acquired a taste for beautiful things and learnt to make them, and there was great demand for the produce of their craftsmen, such as carpets, silks, engraved daggers, and elegant glass. As their towns grew they built churches, which they called mosques, and palaces surrounded by gardens in which fountains played. Baghdad on the Tigris and Cordova in Spain were famous for their splendour, while Mecca, where Mohammed died, was visited every year by a great crowd of pilgrims.

▲ *An Arab town*

The Angles and Saxons

After the withdrawal of Roman troops from Britain in the fifth century, the country for many years was exposed to devastating raids by Picts, Scots, Jutes, Angles and Saxons. The Angles and Saxons, later to be called the Anglo-Saxons, succeeded finally in dominating the inhabitants of the country. They came originally across the North Sea from Germany in their long ships, rather like those of the Norsemen or Vikings. At first, the Angles and Saxons would sail up the rivers of Britain plundering towns and villages as they went and carrying away with them all their loot. Later, however, many of them stayed on in the country, making their homes there after driving the Britons into Wales and Cornwall.

By the end of the fifth century all the eastern part of Britain was in their hands, and by the middle of the sixth century the territories occupied by the invaders were greatly extended.

Anglo-Saxon houses were built entirely of wood and wattle and the roofs were very high and covered with straw, hay and reeds. The main house in each settlement was the chieftain's house, called the Hall, which was long and usually filled with smoke coming from the fire which was laid on a stone in the middle of the building.

The Anglo-Saxons were a fierce people and their festive occasions were celebrated in the same manner, with competitive games, hunting and falconry. But with the coming of Christianity, introduced by St Augustine from Rome, the Anglo-Saxons developed from their primitive beliefs and soon established schools and churches throughout the country.

The Norsemen had no fear of storms at sea

The Vikings

The Vikings too were tall, fair Barbarians. They lived right up in the north of Europe, in the countries we now call Denmark, Norway and Sweden. Their villages were built by the calm waters at the end of fjords, which are long narrow inlets of the sea running inland between the mountains.

The poverty of their land drove the Vikings, as their population increased, to seek their fortune abroad. They built light and rapid ships capable of carrying forty men and their horses. In them, the Vikings were ready to brave any storm. One of their chieftains (Eric the Red) passing to the north of the British Isles discovered an unknown country he called Greenland. Another went even further, and reached North America.

Generally the Vikings were content to sail along the coasts of Europe, landing every now and again to attack and plunder a town. Of the inhabitants, the men were immediately slaughtered: the women and all the plunder were dragged on board the ships. The rest—houses, palaces, and churches—was set on fire.

Then the Vikings began to sail inland up the rivers, and more cities were devasted. Some kings, for the sake of being left in peace, gave part of their kingdom to the Vikings. In France, for instance, a descendant of Charlemagne, Charles the Simple, gave them a province which came to be called Normandy after them, for Norsemen is another name for Vikings. With that, the Vikings settled down and began another life, finally abandoning their warlike gods and becoming Christians.

Taking away their loot

Assault on a feudal stronghold ▶

6 THE DAYS OF FEUDALISM

Europe from 900 to 1350

A tournament

The lords and the serfs

On many a hill in England, France and other European countries were the high walls and towers of a medieval castle. In the castle lived a feudal lord and his family, their servants and some soldiers. The castle was surrounded by a broad moat full of water. The only way across the water was a drawbridge, which could be pulled up. In the middle, one tower rose above all the others: this was the keep.

From the top of the keep, watchmen scanned the surrounding country day and night. Below them, almost at their feet, were the thatched cottages of the serfs, and beyond these the fields that the serfs tilled for their lord. Still further were the woods and moors, in which the lord would go hunting, and far away, on a distant hill, might be another castle.

Sometimes a rising cloud of dust would give warning of enemy troops approaching. The alarm was sounded, and all the serfs came rushing into the castle, driving their cattle, sheep and goats. When all were in, the drawbridge was raised. Meanwhile the soldiers had been putting on their helmets and coats of mail. Some of them took up their stations at the long, narrow loop-holes in the thick walls, through which they would soon be shooting their arrows. Others were placed at the top of the walls, ready to throw stones at the assailants, or pour boiling oil and molten lead upon them.

The feudal lords often went to war, burning towns and villages and destroying the harvests. The king wanted to stop these raids, but he was not strong enough to make the lords obey. Some of them, indeed, were more powerful than he was, owning whole provinces. They had received their land from the king and were supposed to govern it on his behalf, but they kept all the produce

◄ A troubadour telling a marvellous tale

travelling jugglers, bear leaders, and those troubadours who could tell so many wonderful tales.

The lives of the serfs, on the other hand, were hard and laborious. They belonged to their lord, who could sell them just as he could sell a horse or a piece of land. To him they had to give most of their harvest. They lived on black bread, beans and cabbage with a bit of fat bacon. When soldiers or huntsmen overran their fields, they damaged the harvests and the serfs were apt to starve. Besides famines and wars, there was always the danger of the plague, in which enormous numbers died.

The game of swine-clubbing ►

for themselves. That made them very rich and able to raise large armies. Naturally they kept from the king what they were doing.

Priests and bishops too tried to keep the peace between these feudal lords. To begin with, they asked that all fighting should stop from Wednesday night till Monday morning, and these peaceful days were called the truce of God.

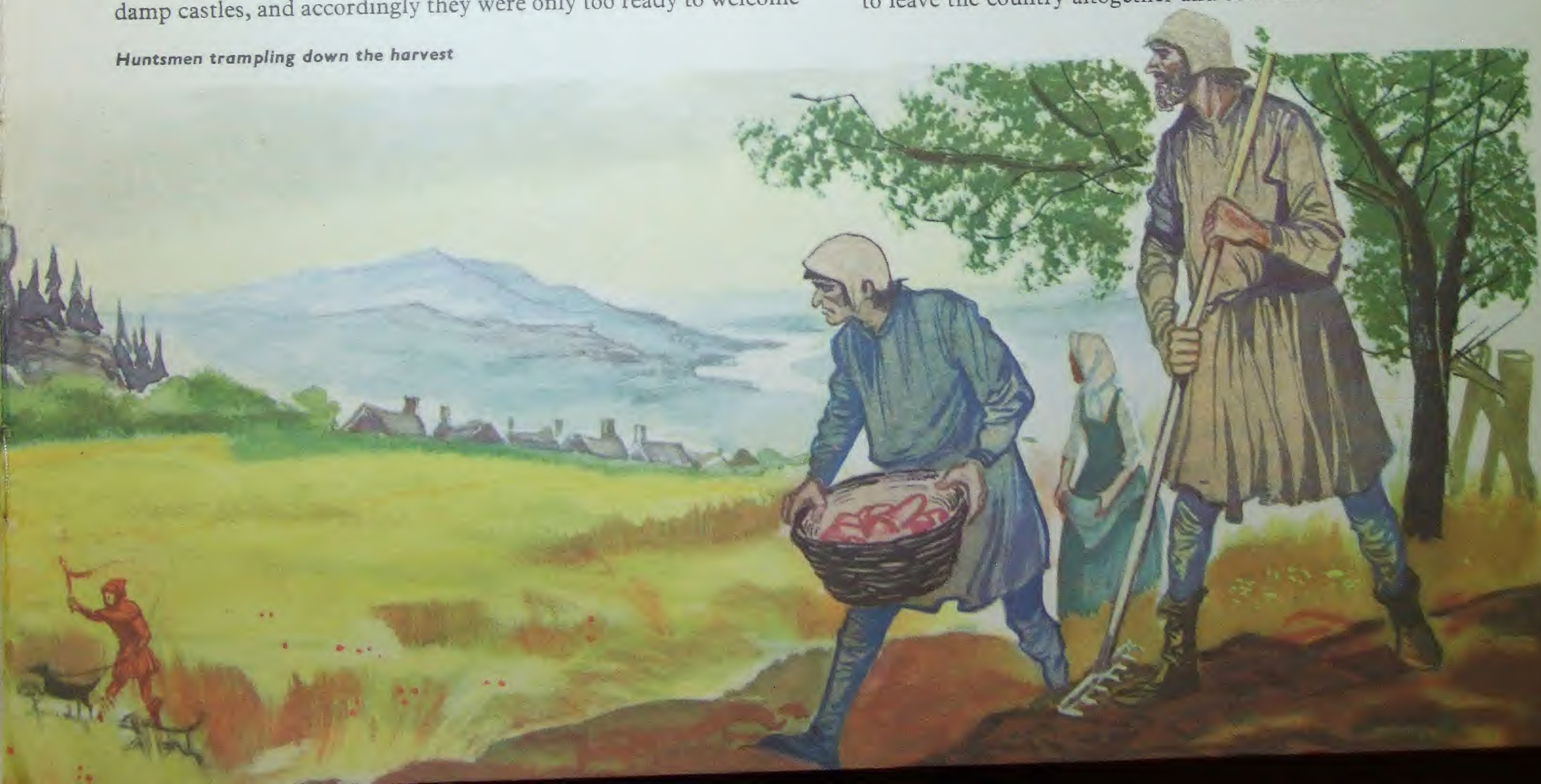
At the age of eighteen the lords' sons were considered sufficiently grown up to fight. They took an oath to protect women and children and the aged. They were given a horse and arms, and from then on they were knights.

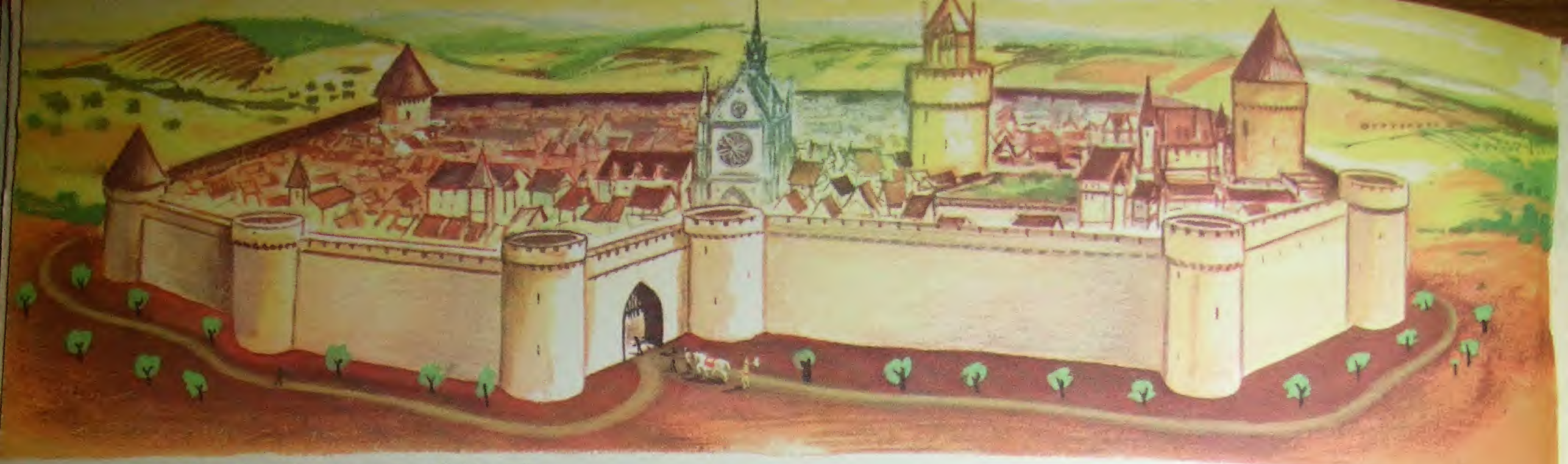
When they were not fighting, the feudal lords spent much of their time hunting. Sometimes they gathered together for a tournament, in which they charged at each other with lances, trying to knock their opponent off his horse. The one who succeeded most often was acknowledged the champion. Apart from these distractions, they found life very dull in their cold, damp castles, and accordingly they were only too ready to welcome

All the same the serfs did manage occasionally to enjoy themselves. On feast days they danced or played games. In one of their games three blindfold men with clubs would try to knock out a pig in a pen. The one who succeeded could take the pig home.

Gradually things changed and serfs were sometimes able to buy from the lord the land they worked on. Some were even allowed to leave the country altogether and settle in a town.

Huntsmen trampling down the harvest





Towns, like the castles, were surrounded by walls

Life in the towns

The towns, like the castles, were surrounded by walls. And for a long time they too belonged to feudal lords, but in the end the townsfolk, helped by the king, acquired the right of self-government. They chose one amongst themselves to become mayor, and he managed the town's affairs, taking orders from no one except the king himself. But the king was generally far away. The wars between the feudal lords went on, and, when armies were about, the citizens of the towns had to defend themselves.

From the top of the belfry, a high tower in the middle of the town, soldiers kept watch. When danger threatened, they rang the bells and every man, picking up his arms, rushed to the town's defence. Every night the gates of the town were shut, and the townsfolk barred their doors. A small body of armed men, called the watch, walked the streets all night, to protect people from the robbers, who were quite ready to kill anyone for the sake of his money.

Soldiers on the look-out

The watch patrolling the streets

As many houses as possible had to be crowded within the walls, so the streets were very narrow, only just wide enough for a single cart to be driven along. They were also very dark, all the more so because the upper stories jutted out over the street. People were always afraid of fire because of the closeness of the houses, which were made of wood.

The streets were also very dirty and smelly. A gutter run down the middle, and in it were thrown dirty water and all sorts of refuse, often causing serious diseases. Hens, goats and pigs wandered freely about. When it rained, feet were soon clogged with mud and the wheels of carts often got stuck.

During the day all sorts of people went along the streets: rich citizens, priests riding mules, travelling hawkers with poultry hanging from a pikestaff, beggars, water-carriers and peasants. Lords from a neighbouring castle would ride by, surrounded by their body-guards.

The market-place of a small town

A cart stuck in the mud

Craftsmen worked in their open shops, under the eye of the passer-by, and what they made they sold themselves. To call attention, a sign was hung up showing the man's trade—crossed keys for instance to indicate a locksmith, a sheaf of corn for a baker, a barrel for a cooper. Men of the same trade joined together to form a corporation or guild. Often they lived as neighbours in the same street, so that there were streets of drapers, others of armourers, fishmongers etc.

In the more important towns there were big schools and even universities for those who wanted to go on studying still longer. The most famous universities were those of Oxford, Paris and Bologna.

The cities throughout Europe grew bigger and bigger. Fine monuments were built. Educated people often visited foreign cities to buy, or even just to read the books that were to be found there. Books in those days were written out by hand and illuminated by monks, so that they were very scarce and very valuable.

The townsfolk loved their festivals. On Christmas, Easter and All Saints' Day there would be a procession to the church. When a distinguished visitor came to the town—a king, a prince, or a bishop—he was received with lavish ceremony. From time to time there were fairs in the market-place. To them came merchants from many countries, to buy and sell.

Books were scarce and very precious

Pilgrims had to face every weather

Pilgrims and Crusaders

Many Christians were anxious to pray in the churches and convents in which were preserved the relics of some saint. To do this they would walk long distances often barefoot, through wind and rain, going on what was called a pilgrimage. Some went as far as the Holy Land to visit the birthplace of Christ. But they were often ill-treated by the Saracens to whom the country now belonged. For this reason the Pope called on all Christians to liberate the Holy Land. Those who went off to fight in this cause had a cross sewn on their clothes and were called Crusaders.

The gentry travelled more comfortably

The first to go off on a Crusade were serfs and they were slaughtered by the Saracens. Next went the feudal lords. They went several times. Though they won at first, they had finally to give up the idea of liberating the Holy Land; but they did get the Saracens to promise not to molest pilgrims.

The Crusaders were astonished by the riches of the East, and they came home loaded with rugs, cottons, and silks, and glass vessels, with which they improved their grim castles. They brought back plants too, and in some of their gardens new flourished apricot and almond trees and globe artichokes, all of which had come from the East.

The Crusaders were amazed by the riches of the East

Money-changers, bear-leaders — and thieves followed the merchants to the fairs

The fairs

The wealthier citizens of the towns soon learnt to admire what the Crusaders brought home from the East. They too wanted to wear fine clothes, embellish their houses, and taste new delicacies. So they made the merchants welcome.

Big fairs took place, several times a year, in some of the towns of England, France and Germany. There buyers and those who had wares to sell came from far and wide to trade. Cloth was brought from Flanders, fur from Germany, wine from France, and rice from Italy. Spices and dyes were brought from the East in Venetian and Genoese ships.

When the bishop had blessed the merchants, the fair could begin, and the stalls were immediately thronged by people. The money-changers were as busy as the merchants, changing gold and silver coins, for each nation made its own money. Coins were weighed to make sure they contained the right amount of metal and that the metal was pure.

On a raised platform, jugglers, acrobats, and bear-leaders kept the people amused, but they had to be careful, as there were many thieves about ready to take the first opportunity of snatching someone's purse.

Ships of wealthy merchants in an Italian port

The building of a cathedral

The cathedrals

Still the cities grew bigger and bigger and were inhabited by more and more people. The churches became too small for their congregations, and many of them, being built of wood, were not considered fine enough, so it was decided to build new ones.

Everybody helped. The rich gave their money, the poor their labour, joining in the work of cutting blocks of stone out of the quarries and hauling them to the place where the new church was to be built under the direction of a master mason, who had drawn the necessary plans. The stone-masons cut the blocks of stone to the shape and size required, and they were placed, one above the other, to make the tall columns which supported the roof, and then the towers and spires that rose up into the sky.

A stained-glass window

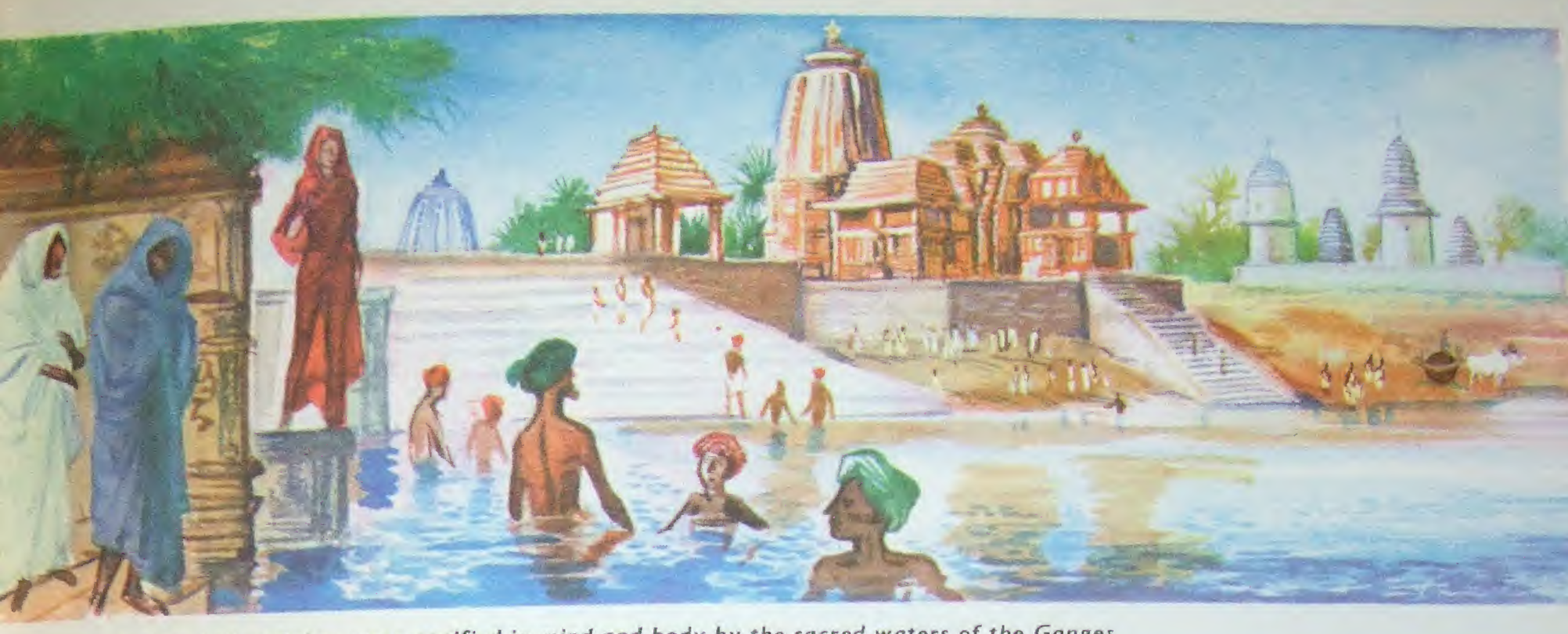
Sculptors carved statues representing God with His saints and angels, which were placed round the doorways. Other sculptures were of horrible grimacing demons. Glassmakers made stained glass for the numerous windows. The glass was cut into small pieces which were assembled in beautiful pictures held together by strips of lead. Some windows depicted the life of Jesus and His apostles, others the work of artisans and peasants.

Thus in France, Germany, England and other countries, those great cathedrals were built which are still admired today. But they took a long time to build, and those who began them rarely lived to see them completed.

On some feast days, after the service, the congregation stayed to see a Miracle Play performed in front of the cathedral. The Miracle Plays were about the life of Our Lord or one of the saints. The scenery was nearly always the same. On the left, representing Hell was a dragon spitting flames; in the middle was a church or palace representing the World; while lastly on the right was Paradise, where God was enthroned amongst His angels.

The townsfolk watching a Miracle Play

7 OTHER CIVILISATIONS



Indians believed they were purified in mind and body by the sacred waters of the Ganges

The god Siva

The Indians

In Europe there was an increasing demand for goods coming from the distant countries of the East. Italian merchants travelled to India and even to China. They brought back precious stones, perfumes, ivory statuettes, china bowls, lacquered furniture, and other rare objects.

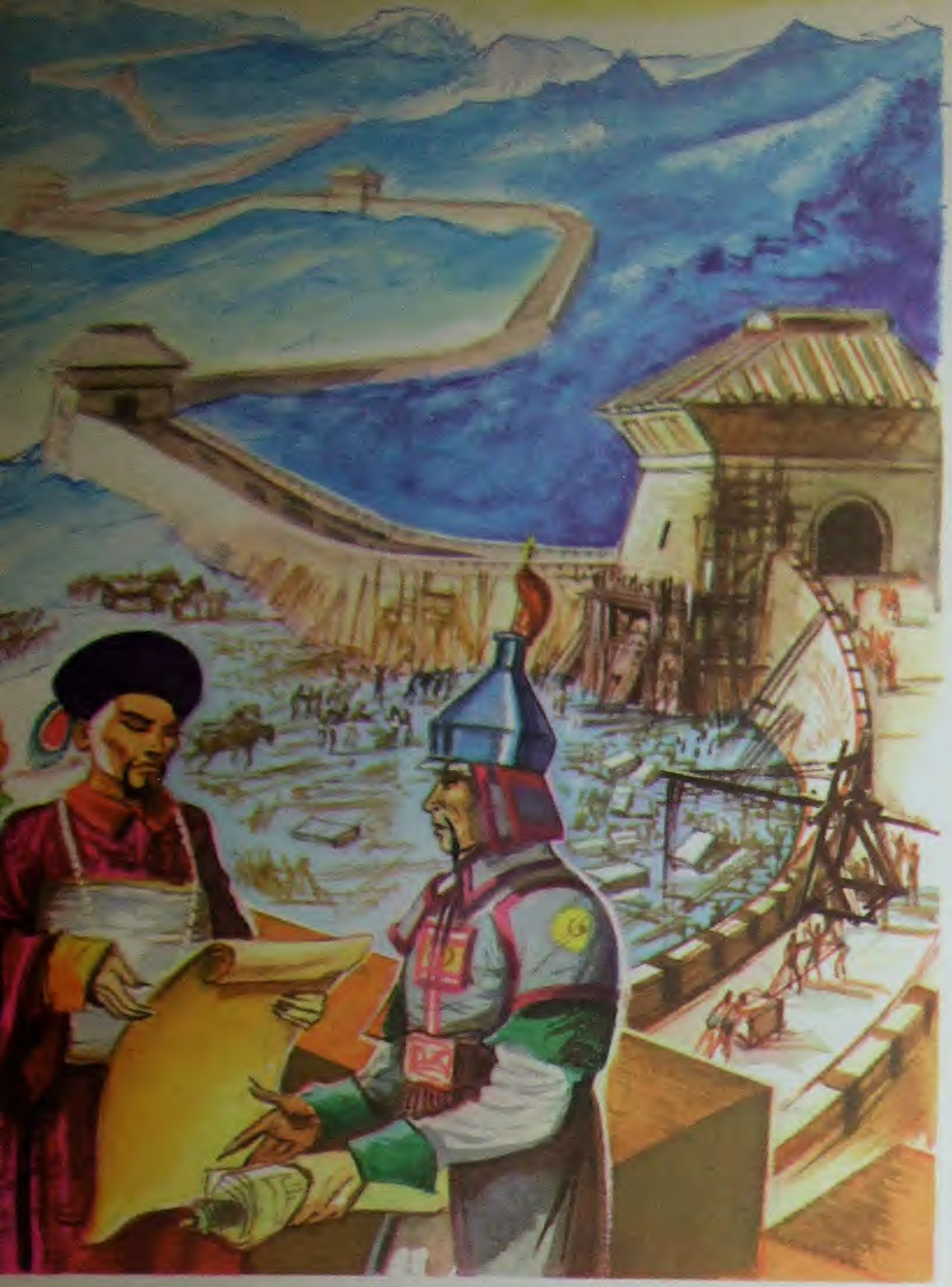
In India the Italian merchants came across men of many different races, but, except in the parts that had been conquered by the Arabs, the religion, laws, and customs were much the same. The Hindus were divided, as they still are, into different castes, that is to say into different and completely separated groups. The highest caste is that of the priests or brahmins, then come those of the warriors, the artisans, and the peasants. Lastly at the bottom of all come the pariahs, or untouchables. Though forming the largest part of the population these last have no rights at all. No member of another caste may touch a pariah or he will be defiled.

All these people were ruled by princes, called rajahs, who lived in splendid palaces. They were clothed in the finest silks and they ate the most delicious foods; exquisite dancers delighted their eyes, and slaves stood by to serve them. Sometimes the rajahs went tiger-hunting in the jungle, riding on elephants.

Hindus believed that after their death they would be born again in another body. They worshipped only one god, though he had many names and appeared in various forms, sometimes with several heads and arms. Five hundred years before the birth of Christ, the prophet Buddha taught that the soul could only be at peace if one renounced all wealth and power; and some followed his teaching.

The Indians built huge temples, pagodas, whose outer walls were entirely covered by statues. Whenever they could, they bathed in the River Ganges, believing that its waters purified them in body and soul.

A rajah goes tiger-hunting



The building of the Great Wall

The passage of the Mongols

The Chinese

At a time when the first Pharaohs were reigning over Egypt, a race of short, yellow-skinned men with slanting eyes settled on the banks of one of the great rivers of Asia, the Yellow River, and began to cultivate the land. Little by little their territory increased, as they imposed their will on the wild and backward people living around them, and, long before the days of Rome, a great empire had been established in what we now call China.

But the towns in the north of China were often raided by the barbaric Huns. To put an end to their inroads, the Emperor Ch'in Shih Huang Ti ordered the construction of a wall 1800 miles long. Thousands of men worked on it. For a long time the Great Wall kept invaders out, but about 1200 A.D. Mongolian horsemen, descendants of the Huns, forced their way through. Led by their chief, Genghis Khan, they burnt entire towns to the ground and transformed fertile country into desolate wastes, leaving nothing behind them but the bones of their victims. Finally, having conquered the whole of China, they mixed with the Chinese and adopted their way of life.

At this period Marco Polo, an Italian merchant, was received in Pekin by Genghis Khan's grandson, the Emperor Kublai Khan. Marco Polo spent seventeen years in China. When he went home he related all he had seen, which sounded so extraordinary to the Italians that they were hardly able to believe it.

Peasants growing rice in terraced fields

At night the towns were often lit up by fireworks

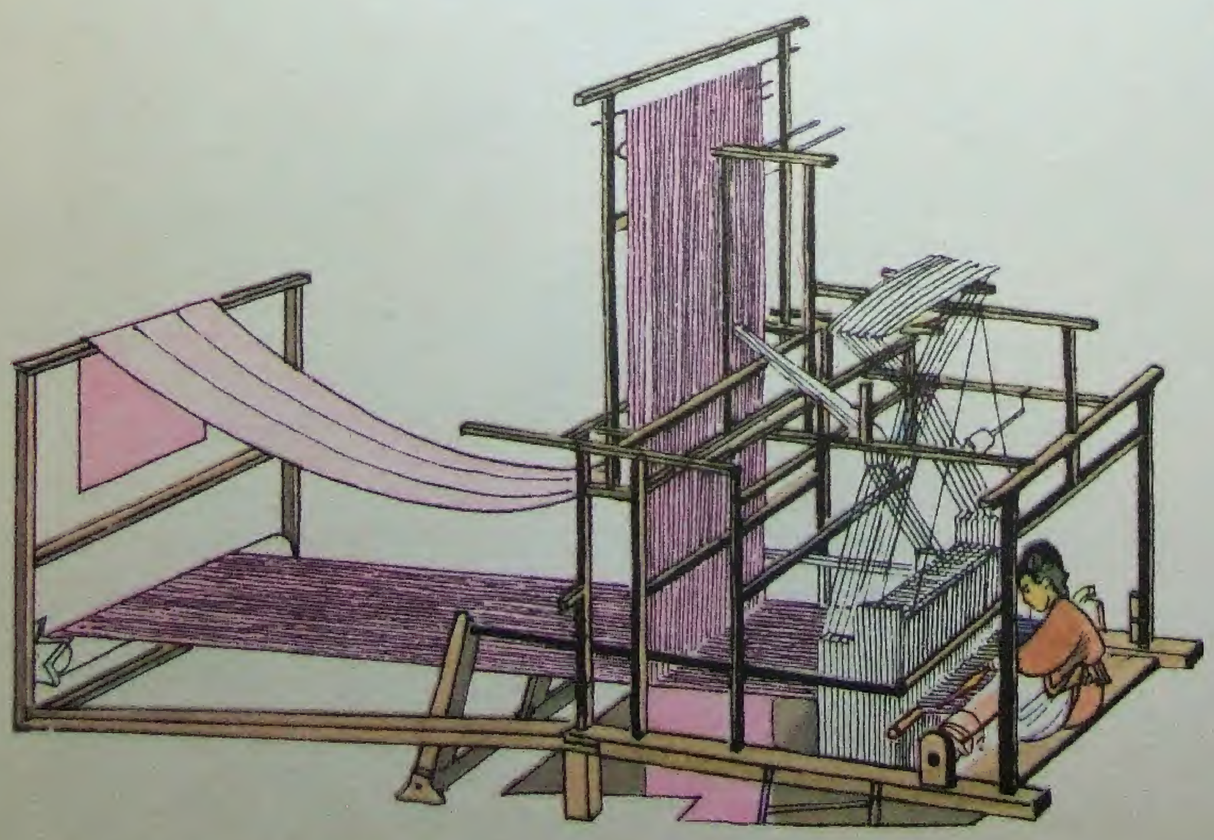
The Emperor's palace alone was as big as a whole town. Several walls went right round it, and between the walls were broad spaces full of woods with wandering deer and lakes with fishes swimming in them. Within the palace lived the Emperor's family, his friends, learned men who helped him govern the country, his servants, and a large number of soldiers to guard him.

Marco Polo was particularly astonished by all the Chinese had discovered. They dug into certain mountains and removed a black stone which burned. That stone, which we now call coal, was at the time quite unknown in Europe. But the Chinese went further than that. Mixing coal with saltpetre and sulphur, they made an explosive which they used in fireworks. They had also invented printing. This of course was only of use to the learned men, for they were the only ones able to read Chinese writing, composed of a host of small complicated signs. The learned men studied history, geography, science, and particularly medicine. They were greatly respected for their knowledge.

The merchants were so rich they lived in grander palaces than those possessed by European kings. They paid for what they bought, not with coins of gold or silver but with printed paper money. Their ships, which we call junks, were constantly plying up and down the rivers, carrying rice, cotton, silk, tea, coral, jade, and all the many products of the very skilled craftsmen.

The Chinese set great store by politeness. One of their learned men, Confucious, taught them the principles of good behaviour. He also taught them to honour their ancestors as well as God, whom they called the Master of Heaven. But Buddha's disciples came to preach his creed in China and many Chinese became Buddhists.

A learned man receives a visitor



A silk-weaver at work

Spanish ships off the coast of America

The peoples of the New World

For ages men had believed the world to be as flat as a pancake. As a matter of fact the Greeks had said long ago that it was round, but the idea had never caught on. Only a few sea-faring men kept it in mind, and it was from Arab navigators that the idea finally came back to Europe.

A Genoese weaver took it up, and he thought that if it was true, there must be another way to India, sailing not eastward, as was normal, but westward, across the Atlantic, and going right round the world. The king of Spain agreed to provide him with three caravels, swift well-built ships that could stand up to all weather. He was able to keep on the right course thanks to the compass, a Chinese instrument, containing a magnetic needle which always pointed north.

On October 12th, 1492 Columbus found land, after thirty-three days' sailing. There he found tall, scantily clothed men, whose skins were brown. Thinking he had reached India, Columbus naturally called them Indians. Little did he think he had discov-

A market at Tenochtitlan, where they sold maize, tobacco, pineapples, baskets, pottery and birds' feathers of every colour

The Aztecs did not know of the wheel

ered a new world, a continent lying between Europe and Asia. Five years later, another explorer, Amerigo Vespucci, landed on the same continent, which, in his honour, was called America.

The Spaniards immediately started exploring the continent, in which they discovered two empires, that of the Aztecs and that of the Incas.

The Aztecs lived in Mexico. The biggest town in their empire was Tenochtitlan, which later became Mexico City. It had in those days a population of over 300,000. Built by a lake, it had canals running through it, so that one could go about either by boat or on foot. The houses of the ordinary people were built of clay and reeds. Towering above them were the emperor's palace and the temples, which resembled the pyramids of Egypt. In these temples hundreds of people were sacrified every year to the cruel god of war.

In Peru lived the Quichuas. They cultivated the land for their lords the Incas. The chief Inca, whose father was believed to be the Sun, governed all the country from his capital Cuzco. The walls of his palace were lined with gold.

An Aztec god ▶

A religious ceremony

The great discoveries

Castle walls could not stand up against cannon-balls

Gradually the discoveries of the Chinese became known in Europe. About 1350, the English began to use in war the explosive

An early printed Bible

hitherto used only in fireworks. It was now called gunpowder. Fired in cannons it could project balls of iron against the enemy. This new weapon enabled the king to attack and destroy the castles of rebellious feudal lords. It was also the possession of fire-arms that enabled the Spaniards to conquer the American Indians.

At the same time skilled craftsmen began to carve sentences on a wooden block. The block was then inked and pressed hard against a sheet of paper. When the block was removed, there was a printed page. A little later Gutenberg had the idea of making up the page with individual letters, these being made of an alloy consisting of lead, tin, and antimony. The advantage of this was that, after printing, the letters could be separated and used again. The first book to be printed in this way was the Bible, but before long books of all sorts were being similarly produced, and the printed book took the place of the rare manuscripts of former times.

At the beginning of the 16th century a German minister, Martin Luther, began to preach against the Catholic Church, in the belief that some of its bishops and monks had strayed from the true teachings of Christ. His followers were called Protestants, and before long the Reformation, as the movement became to be known, had begun, spreading quickly throughout Germany, Sweden, Denmark, Holland and England. Henry VIII, although he disagreed with Luther, broke off his allegiance to the Pope, and in 1535 established the Church of England.

About 1600 Galileo was observing the stars with a telescope he had invented

About 1670 Newton studied the properties of falling bodies

In 1747 Franklin examined the effects of lightning

From 1770 onwards Lavoisier worked to perfect the science of chemistry

8 THE MARCH OF PROGRESS

In 1520 Luther and the Protestants broke away from the Catholic Church

Coffee houses, where scholars discussed new ideas, were popular in the 18th century

Learning increased. As formerly in Greece and China, scholars observed nature and tried to find out its laws. They began to conduct numerous experiments to discover more about the world they lived in. In 1500 a Pole named Copernicus declared that the earth revolved round the sun as well as turned on its own axis. A hundred years later Galileo, an Italian, perfected the telescope through which he could observe the stars. About 1670 the Englishman, Newton, seeing an apple drop from a tree, studied the properties of falling bodies and discovered the laws of gravitations. In 1747 Benjamin Franklin, an American, invented the lightning conductor. A little later Lavoisier gave a new direction to the science of chemistry by discovering the true nature of combustion. He found out also that water is a mixture of two gases.

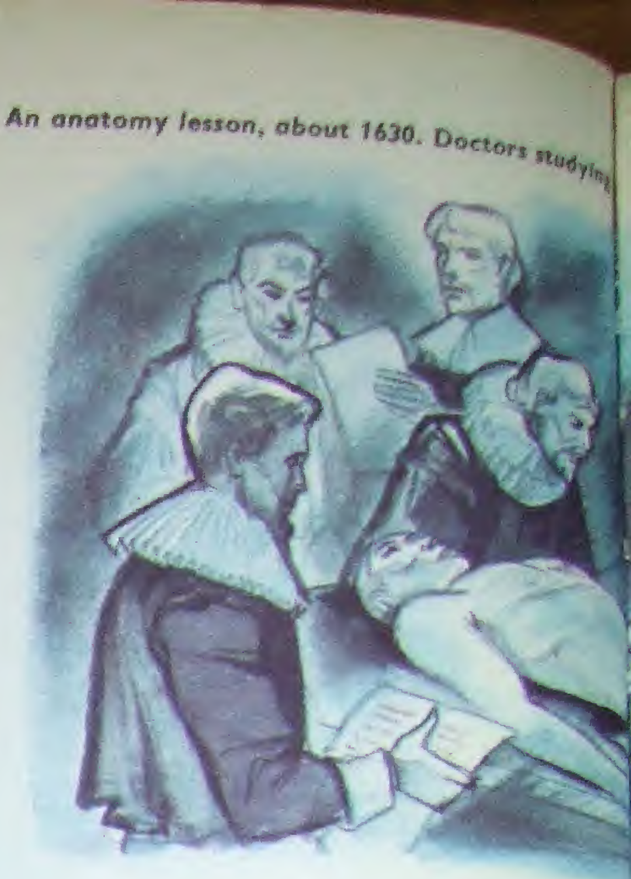
For ages men had dreamt of inventing a way of travelling through the air. This was done about 1783 in a balloon designed by the Montgolfier brothers.

The desire for knowledge prompted men to discuss and enquire into everything. In England, during the 18th century, men of culture met in coffee houses to exchange ideas while drinking coffee, which had recently been introduced into Europe and was much appreciated. Samuel Johnson, the writer of the famous Dictionary, was often to be found in these places usually in the centre of a discussion. Talk of the freedom of man was in the air, and in America and France this resulted in revolutionary wars in which people asserted their rights of independence. Soon after this, the emancipation of slaves in the British Empire was brought about by an act of Parliament, championed by William Wilberforce.

Before 1500 Leonardo da Vinci had already designed a glider

A balloon, 1790

Venice, 1480, one of the most beautiful cities in Europe



An anatomy lesson, about 1630. Doctors studying

Towards a better life

By this time the towns were linked by better roads. Merchants were able to move about all the year round, and the goods exchanged between the countries grew steadily. Ships were capable of sailing on every sea. Attracted by the wealth of foreign countries, they found their way to every harbour on the North sea, the Channel and the Atlantic, and the ports were constantly enlarged. Colonies were founded overseas.

Dueling, most common in France, was outlawed there in 1626

About 1700 Peter the Great forced Russian nobles and peasants to shave off their beards

The growth of trade necessitated large sums of money, sometimes much larger than that which the merchants had in hand. In this case, the merchants went to bankers who lent them money on which they paid interest. The castles of kings and princes were no longer the grim buildings they had been, lit only by narrow loop-holes. They now became palaces rather than fortresses, graceful buildings of brick and stone with courtyards, surrounded by fine gardens. Their broad windows let in light and air. Venice in Italy is a beautiful example of this taste for large buildings and greater comfort.

The Great Fire of 1666 in London, although it was a terrible disaster, did at least rid the city of many of its dirty alleys, streets and uninhabitable wooden houses. Six years later London was re-built—many of the buildings by the famous architect, Sir Christopher Wren. The new houses were built of brick and stone and were much more handsome than the old wooden ones.

A banker in 1700. He lent money and exchanged foreign currency

the position of the organs in a dead body

The use of glasses was becoming common about 1550

Aristocratic families became gentler in their ways, acquiring a respect for human life they had never had before. As one sign of this, duelling, which was common throughout Europe, was forbidden in France in 1626. The habit did not stop at once, but those who were caught duelling were severely punished.

The science of medicine developed, thanks to increasing knowledge of the human body. Formerly doctors had not the right to perform operations. It was thought more reasonable to have them done by barbers who, though ignorant of science, were experts in handling sharp instruments. The growing taste for scientific time, ignorant of the cause and cure of diseases, resorted to the age-old remedies of bleeding or enemas for most complaints.

And of course it was not everyone who reaped the advantages of progress. The townsfolk benefitted more than those in the country, the rich more than the workmen. All the same, taken as a whole, life became less rough. There was a spirit of progress prevalent in most European countries. It was not until 1700 however that Peter the Great, Czar of Russia, after journeying throughout Europe, decided to modernise his country, and one of the first things he did was to have all the long beards worn by nobles and serfs alike cut off.

Hospitals had vastly improved by the 17th century

observation led some doctors to cut up bodies (stolen at night from cemeteries) to find out all they could about the organs. What they learnt was called anatomy. As the science developed, the theory of the course of the blood as it circulated through the body was worked out by the Englishman, William Harvey, in 1616. Although Harvey's discoveries were disbelieved at first, he lived to see his views widely accepted.

For people with no money, hospitals were built. Before long there was a hospital in every city. But nothing was known of infection, of how diseases spread, and patients of all sorts were crowded into enormous wards, sometimes two in a bed. Much of the treatment was quite useless. For instance, people bitten by mad dogs were made to bathe in the sea! Many doctors at this

A doctor treating his patient, about 1650

During the 18th century splendid palaces were being built in Europe. These are the gardens of the palace at Versailles

The nobles and the merchant class

To display their power, kings and nobles made their palaces larger and more beautiful. For this they sought the best architects, the most skilful sculptors, the most famous painters and the most resourceful gardeners.

Versailles, built about 1670, was of all the palaces the most famous. In it the king of France, Louis XIV, led a life of utmost luxury and brilliance, and he was followed by two other kings, Louis XV and Louis XVI, who also lived there. Foreign ambassadors and visitors were so amazed at its splendour that they spoke of it on their return home and many nobles tried to live in the same style.

The theatre in England, about 1600, when Shakespeare's plays were being performed

In England, too, much of the wealth which came from increased trade was spent on building magnificent residences both in the town and in the country. Great houses were built, often in the style of old Roman temples, and they were filled with pictures and furnishings of the finest kind.

Bath in Somerset was the most fashionable town in England, to which the wealthiest people came not only to bath, but to dance at the magnificent balls, and to play at the gaming tables. Frequently to be seen at Bath, playing such games as faro, whist and hazard, was the dandy, Beau Nash, who set a fashion at that time for men's dress. At this time also bathing at seaside resorts like Brighton, Weymouth and Margate had become popular. People bathed from bathing huts on wheels, which were drawn to the water's edge.

Music was greatly appreciated in the courts of Europe. New instruments were invented. The piano took the place of the harpsichord, the violin replaced the viol on which troubadours had accompanied their songs. The flute was introduced.

Musicians composed beautiful pieces which were played in church or in drawing-rooms of large houses, where cultured people would gather to listen. The greatest of these musicians, a German, was Johann Sebastian Bach.

New sorts of plays replaced the old Miracle Plays that had been performed in front of the cathedrals. Some of them, called tragedies, were concerned with the unhappy lives of kings or heroes. Others, called comedies, showed up the failings and absurdities of humanity. Companies of actors toured the country, setting up their stages in the yards of inns. Some people wrote plays and also acted in them. Shakespeare was one of them, Molière in France another, and a third was Calderon in Spain. The works of these three playwrights are still greatly enjoyed today.

In another kind of play—opera—the words were sung. Operas began in Italy about 1600 and gradually spread to other countries.

The streets in these times presented a curious spectacle. While the traffic had greatly increased, the streets had remained narrow and there were no pavements. The crush was so great that there were sometimes traffic jams. In those days the aristocracy, instead of riding on horseback, preferred to sit comfortably in a carriage, which was an Italian invention. Very simple at first, carriages were soon decorated, both inside and out, and they were upholstered to make them more comfortable. But they were still heavy and clumsy, and they were liable to crash into carts of vegetables or handbarrows, and the curses of the drivers mingled with the cries of startled poultry.

A concert in a private house in Germany, about 1750

For short distances, the sedan-chair was soon considered more convenient than the carriage. Carried by two to four servants, it enabled the wealthier class of people to avoid getting their shoes muddy or rubbing shoulders with the crowd.

Traffic jam in a town, 1750

A mine in 1550

Popular theatricals in 1700. Clowns amusing the crowd

Workmen, artisans and peasants

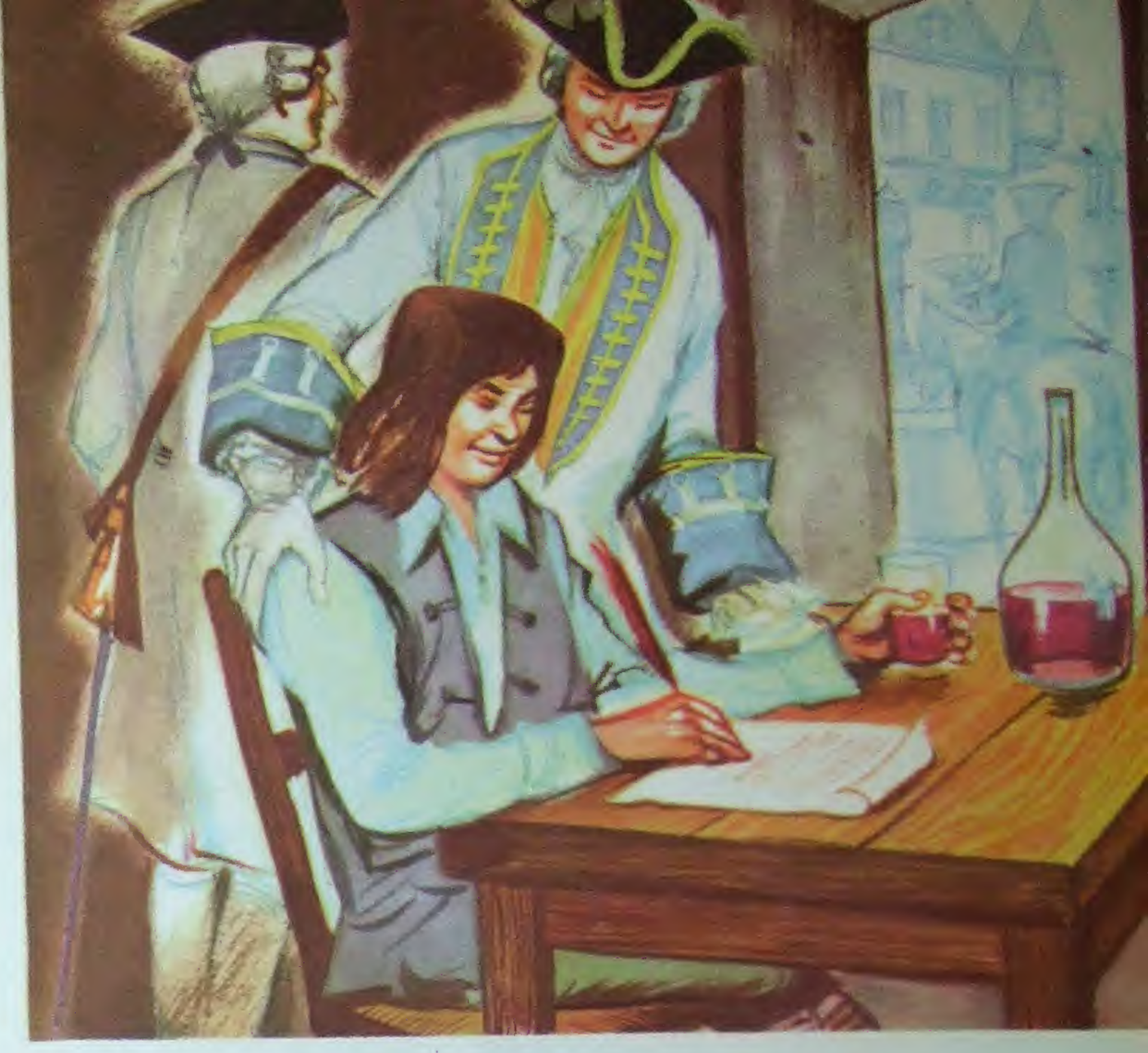
In the early 17th century there appeared in the towns workshops that were really the first factories. In some, silks and woollens were woven: in others men made mirrors, pottery and many other things that had hitherto been imported from the East. At the head were men who employed a number of workmen who had to work sixteen hours a day for very low wages, without a holiday—for always more and more had to be produced. But if trade made rapid strides, the same cannot be said of the way things were made. Nearly everything was done by hand. What machines there were had only wind or water to drive them.

Like the Chinese, Europeans began digging coal out of the ground; at first out in the open and then deeper and deeper underground. Both in the coal mines and the iron mines, men had to be lowered down shafts to work along narrow galleries.

The first really practical steam-engine was made by James Watt, a Scotsman, and this at last provided men with the power necessary to drive machinery of all sorts in all places. But the workmen had to wait a long time before their lives were made easier.

▼ *Cutler's workshop, about 1760*

A young peasant enlisting in the army



To forget their troubles, the people often went in for amusements which today seem primitive and cruel. Cock-fighting and bear-baiting were very popular, and prize-fights, although forbidden by law, still took place in fields outside London. At the great fairs which were held in all the large towns, theatricals were always well attended, and the people could forget their misfortunes while watching the antics of the energetic clowns.

Artisans—cutlers, dyers, blacksmiths, tanners, and so on—despite the rapid growth of factories, were still very numerous. They joined a workshop under a master who taught them their trade. Many artisans, having no money and thus unable to acquire a workshop of their own, wandered from town to town, working a few months under one master, then under another.

Fortunately, the people's diet was enriched and varied by the introduction of new foods from abroad. Potatoes, for instance, though looked down on at first, were soon grown more and more

Often in winter food was distributed among the peasants

widely, until they finally formed a large part of the ordinary diet.

Peasants still formed three-quarters of the population in Europe. Their condition depended on how much land they cultivated and how good the soil was, but in general they remained very poor. With the failure of a harvest due to bad weather, they were immediately faced by starvation, and in many European villages it was necessary to distribute bread. In England, where the factory system started, an act of Parliament forced many of the agricultural workers to give up their small strips of land so that the strips could be incorporated into larger farms, and many farmers were forced to move to the towns in search of work.

One way for men to escape from these difficulties was to join the army or navy. But the choice was not always theirs. When sailors were needed in the Royal Navy, they were often obtained by means of a Press Gang. In sea ports, a group of armed sailors, led by an officer, would search the town for healthy individuals whom they would forcibly drag back to the ships.

From the 17th century onwards many farmers grew potatoes

9 THE CONQUEST OF

Red Indians attacking pioneers travelling to the West

From 1600 to the present day

A hundred years after the discovery of America whole families embarked from European ports, to sail towards the virgin land of the New World. After spending six to twelve weeks in a sailing ship, often tossed about by storms, their hearts rejoiced to find themselves in forests full of game or on the banks of rivers full of fish. They settled all along the Atlantic coast and far inland up the rivers.

While the French spread in Canada, the English founded colonies further south, in the area now called New England. These colonies became prosperous and soon the inhabitants began to speak of freedom and equality. In Boston the people refused to pay taxes imposed by the king of England, and with that started the War of Independence. They won their independence eventually and in 1783 was formed the United States of America, the first republic in the New World.

About 1870 trains were often held up by buffalos

1870. How arguments were settled amongst cowboys!

More people came. Besides Europeans, Chinese and Japanese settled in the United States. Hunters, trappers, fishermen and farmers, many of the settlers drove deep into the country in their covered wagons, carrying with them what little they possessed. They were pioneers opening up new country, often in the face of fierce and hostile Red Indians who refused to come under the white man's domination. Gradually most of these Red Indians were conquered.

From 1848 the fur trade and the gold mines attracted men still

NEW LANDS

further to the West. Many crossed the high Rocky Mountains and settled down on the shores of the Pacific. Life was very rough in the Far West in those days. When cowboys differed the matter was settled with fists or guns in the smoky atmosphere of a saloon.

The United States possessed, as it still does, an enormous wealth of iron, oil, copper, lead, etc., which acquired a steadily increasing importance with the growing use of machinery, and greatly contributed to the rapid development of the country. Picturesque

A jazz band in 1920

paddle-steamers plied on the great rivers. Railways joined the most distant towns. In early days the trains were often stopped on the prairie by herds of buffalos and the passengers, never without their rifles, had to get out and drive them away.

To provide the necessary labour for the great plantations of the

A Mississippi paddle-boat

South, where cotton, tobacco, sugar-cane, and rice were grown, a large number of black slaves were brought from Africa. Set free in 1863, these Negroes form a considerable part of the population of the United States. They love to gather together to sing their touching songs which express the sorrows of their forefathers, or to play those famous jazz tunes which, after becoming popular all over America, finally spread to Europe.

In the last hundred years, gigantic towns and thousand of factories have risen up, and the sky-scrapers which today dominate the port of New York give the incoming traveller a foretaste of this new and powerful country.

New York today

A hundred and fifty years ago large portions of the world were shown in maps as unknown territories. No one had yet described the icy solitudes of the North and South Poles, the burning deserts of the tropics, the huge forests of Africa and America, or the highest mountain ranges of the Old World and the New. Now adventurous men came forward to explore them.

Some, using sledges drawn by dogs, ventured on the wildernesses of the Arctic, painfully crossing crevasses and clambering over high blocks of ice. In such regions, in which there is sometimes ninety degrees of frost, the snow storms are so violent that it is impossible to walk against them.

Other men, on camels, crossed great deserts like the Sahara, tortured by heat and thirst, blinded by driving sand, led astray by mirages.

Yet others plunged into the dense growth of virgin forests. Accompanied by native bearers they blazed trails that were later to become roads or railways; they went up rivers to discover their sources. The going was slow and difficult, and they had to keep

The Watutsi tribe of Equatorial Africa are lovers of dancing

Two South-American Indians, called Iawas, wanting to marry the

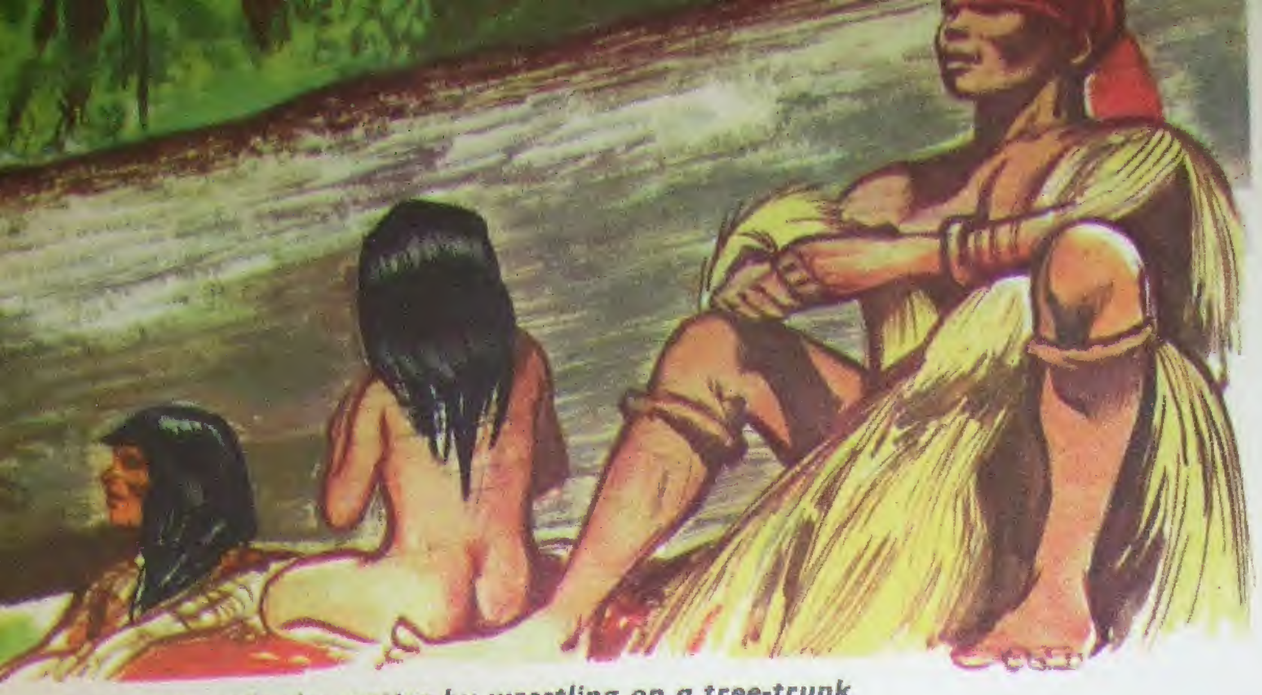
10 THE WORLD GIVES

a constant look-out for wild animals and snakes, for insects whose bites brought on fevers, and for the attacks of hostile tribesmen. An Englishman called Livingstone, in the course of several journeys in the course of his work as a missionary, travelled some 25,000 miles, to die of exhaustion at the end near one of the sources of the Nile. Many explorers have paid with their lives for their curiosity.

Whole teams of experts have now taken the place of those early pioneers. They include doctors, historians, and geographers, while technical experts take charge of all the food, instruments, etc., which are carried in specially designed cars. A long time is spent in preparing expeditions. Their aim is to collect information on climate, on animals and plants, on the natives, how they live, and how their living conditions can be improved. For all that, a modern expedition spends several months in the same place.

Thanks to the cinema, we ourselves can travel about the world, watch Negroes dancing, brandishing their spears, South-American Indians wrestling on enormous tree-trunks, or Australian Aborigines hunting kangaroos with curved strips of wood called boomerangs. In the films we are able to see the most primitive of our fellow creatures.

Up in the Arctic circle live the Eskimos. They live most of the



same girl, settle the matter by wrestling on a tree-trunk

UP ITS SECRETS

year in igloos, which are huts made of pressed snow. Clothed in thick furs to keep out the cold, they live by hunting and fishing. On sledges they follow bears; on board their little boats, called kayaks, they lie in wait for the seals that swim in the icy water. They also make holes in the ice, and harpoon seals when they come up to breathe.

Tuaregs live in camps in those parts of the Sahara desert that are not completely burnt up by the sun. Their herds of camels, goats, and sheep suffice to keep them alive and to clothe them. Here and there is a sudden garden in the middle of the desert. It is an oasis. Water trickles from a spring or may be drawn up from a well. Houses are built in the shade of the palm-trees.

Among the Negroes met with in the forests of Equatorial Africa are the Pygmies, who are no taller than a child of ten. Like the earliest men, Pygmies spend all day looking for food. They eat roots, fruit, insects, and birds. They obey sorcerers. Another race found in these parts are the Bantus. They grow crops, occasionally burning down a section of the forest to provide themselves with a fresh area of land to farm. They live in big villages.

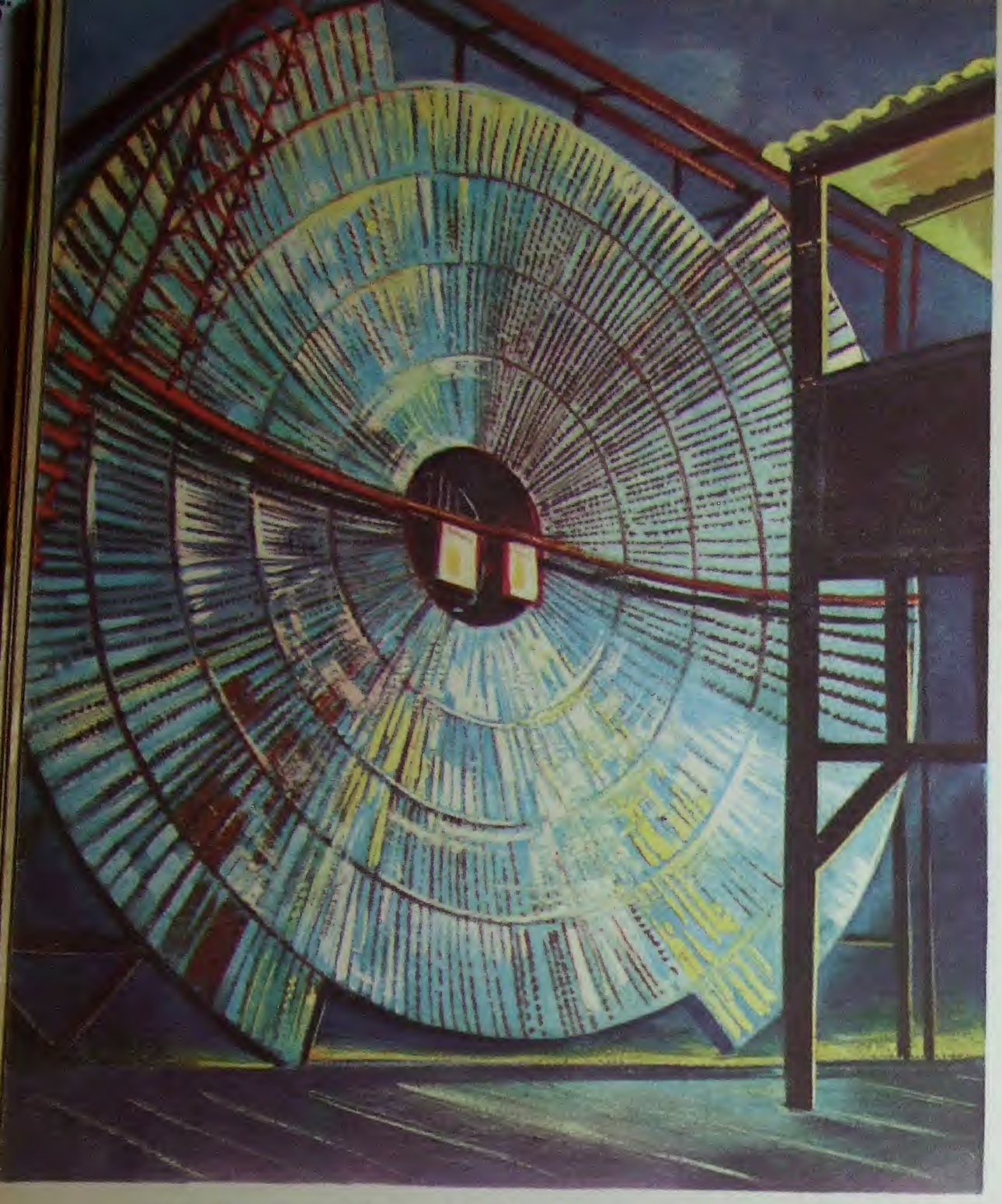
In the South American forests are several tribes—Boras, Iawas, Jivaros, etc.—who live in much the same way as the Pygmies.

The Aborigines of Australia hunt kangaroos with boomerangs

They hunt with poisoned darts propelled through blow-pipes. The poison paralyses the prey without making it poisonous to eat. The most terrible of the South American Indians are the Jivaros, who cut off their enemies' heads and shrink them to the size of an orange.

Progressively the unknown territories have disappeared from the maps. Men scale the highest mountains and go down into the deepest caves. They study life on the sea-bottom and peer into the craters of simmering volcanos. And now their eyes are already being turned in the direction of worlds other than ours.

An Eskimo village in the Arctic



Using the energy of the sun. By collecting the rays of the sun and focussing them on a point, this gigantic mirror can melt a bar of steel in twenty seconds

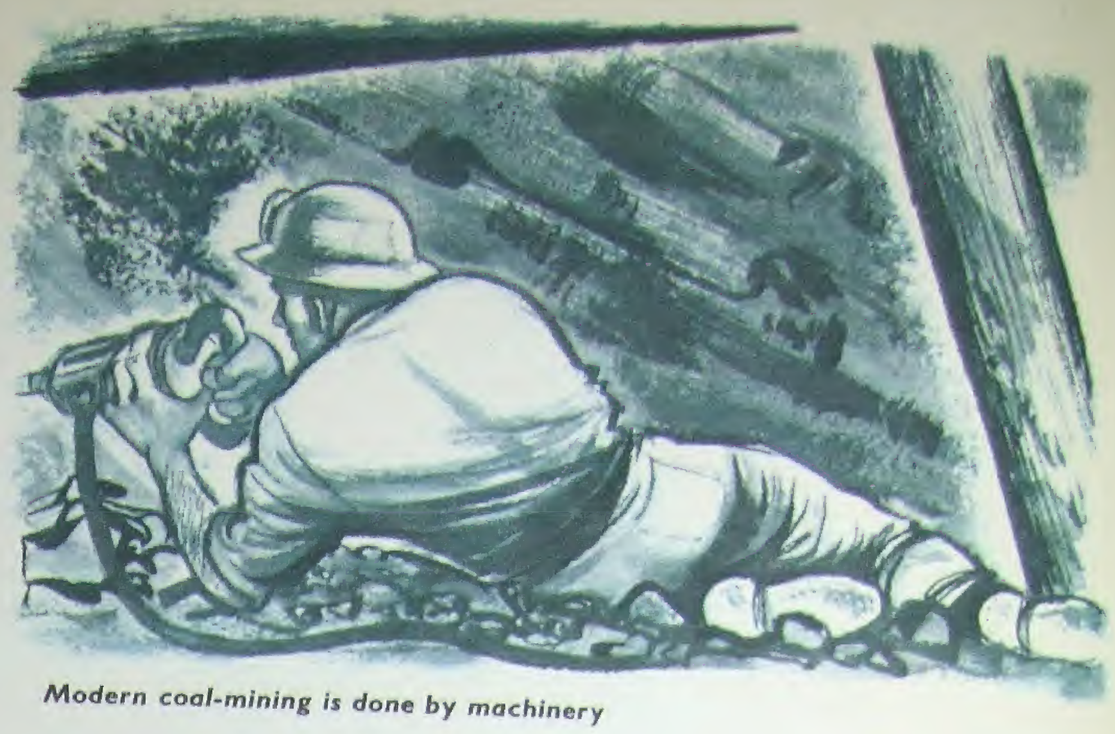
11 OUR OWN TIMES

Energy in the service of man

In the last hundred and fifty years, man's control of natural forces has increased enormously. Inventions and discoveries are made more and more frequently, for, with the spread of education, there are more scientists in the world. This is the age of science and the age of speed, and our lives have been quickened accordingly.

Cars have made horse-drawn traffic a thing of the past; steam ships and motor-vessels have abolished the sailing ship. Trains go faster year by year, and they cross whole continents. Aeroplanes can go round the world in a few hours. Everything of importance that happens in the world is reported the same day by newspapers, sound broadcasts, and television. Telephones and wireless can send messages any distance. When accidents happen relief work is undertaken immediately, and the injured are soon in hospital in the hands of doctors and nurses.

All this is due to the new sources of power that have been discovered.



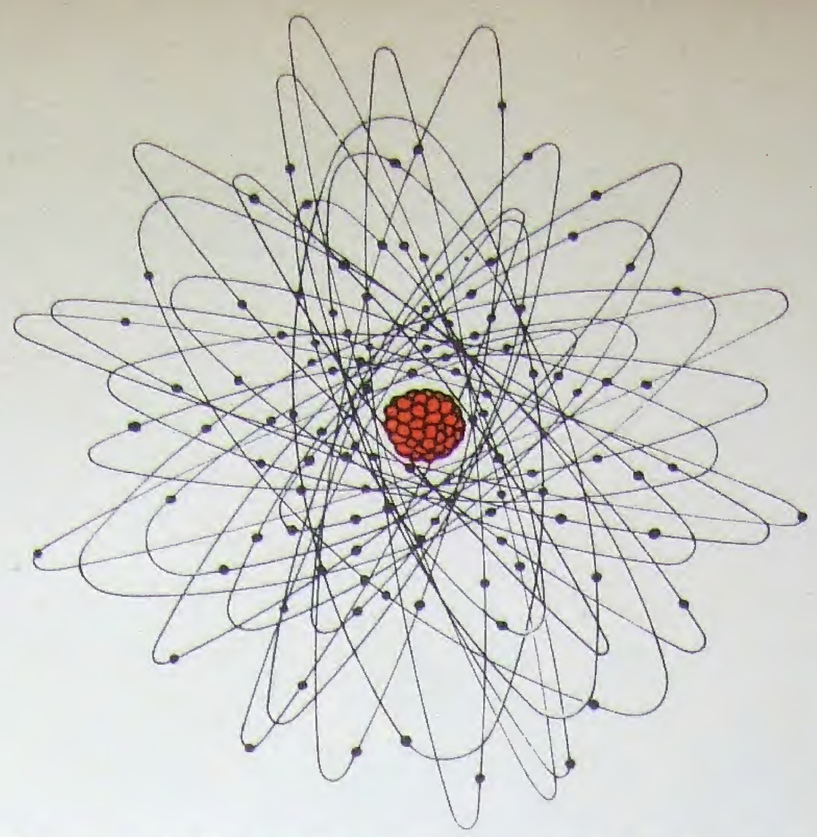
Modern coal-mining is done by machinery

In a boiler the energy in coal is converted into steam, and in a steam-engine the energy of steam is converted into motion. Naturally it was in the neighbourhood of the coal mines that those factories sprang up which used cranes, rollers, steam-hammers, and machinery of all sorts. Railways and steamships, by making transport quicker, have greatly facilitated trade.

At one time all industry depended on coal. Then other sources of energy were utilised—electricity and oil.

Electricity thoughout the world is generally produced by water-power. Electricity travels instantly along wires to wherever it is wanted, so that factories can be set up in any place considered suitable. In towns and villages electricity gives light and warmth and many conveniences. To doctors, for instance, it gives new means for finding out illnesses and new methods for treating them.

A derrick



An atom of uranium. In the middle, coloured red, is the nucleus, around which revolve the electrons, which are shown by the black dots

On the railways, electric engines are gradually supplanting the steam locomotive. There is no end to the uses for which electricity is required. So new dams all over the world have to be built across rivers to bank up the water, forming artificial lakes, from which pipes lead to the turbines. The turbines generate the electricity.

Oil is a blackish liquid found deep under the earth in certain regions. From it is got the petrol which drives cars and aircraft, also the paraffin used in lamps and stoves, the tar used in road-making, and a number of other substances used in the manufacture of new materials like plastics. It has become so necessary that people are constantly looking for new oil-fields. As soon as one is found, high metal towers called derricks are built on the ground above, and from them a hole is drilled right down to the oil, so that it can come to the surface. From the oil-wells the oil runs in pipe-lines, sometimes for hundreds of miles, to a refinery or to a port where it is pumped into a tanker.

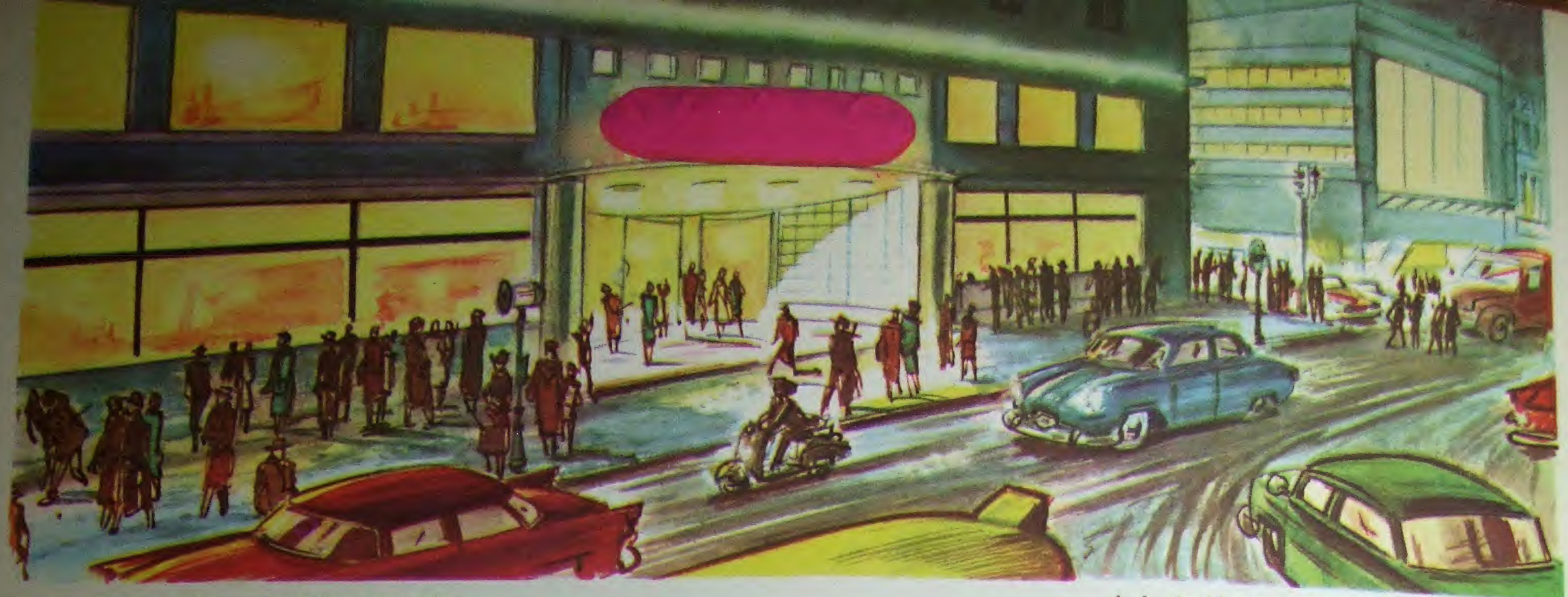
The amount of coal and oil in the world is not unlimited. Fortunately other sources of energy are now available to us. A start has been made in some countries in using the heat of the sun and the energy to be found in the movements of the tides. Still more important for the future is atomic energy, the power derived from splitting atoms.

A dam

◀ *Steamships, electric trains, motor cars and aeroplanes make travel more and more rapid*

Helicopters are particularly useful for rescue work

With newspapers, the telephone, sound broadcasting and television, the news comes to us almost instantaneously



▼ *Surgeons save thousands of lives every day*

▲ *In the big towns the streets are lit up at night*

Tall houses are built with large windows to let in plenty of light. And homes are becoming more modern

The life we lead

There are over two thousand five hundred million people living in the world today. In the last hundred years the population has doubled, largely because of the immense progress made in medicine and surgery. In England, scientists like Jenner and Lister did much to combat the spread of diseases, and as a result many dreadful illnesses such as small-pox, cholera and tuberculosis have lost their terrors, and we know how to prevent wounds becoming septic. Discovered by Fleming, a Scotsman, penicillin, by killing microbes, has saved countless human lives. Today surgeons are continually performing operations on anaesthetised patients that would formerly have been considered miraculous. New-born infants are also much better looked after.

Births increase and men live longer. Consequently day by day more food is needed, more clothing, more houses, more produce of every description. Fortunately production can always be increased by better manufacturing processes and better machinery. Agriculture has undergone vast changes. The big plains are not often now divided into small fields growing different crops. The same crop—be it corn, sugar-beet, or rice, depending on the climate—is grown over a wide area. Fertilisers make the soil richer and tractors do the work formerly done by horses or oxen. Combine-harvesters do in a day what used to take weeks.

During the last hundred years many farm labourers have moved to the towns, attracted by the regularity of work in factories. But they used to have to work long hours and they had no help when ill or out of work. But by forming trade unions they bettered their conditions. Nowadays factory work is highly organised. Much of it is done at a belt; that is to say the object which is being made travels along a belt from one man to another, each of whom does

The use of agricultural machinery all

▲ *International exhibitions display the inventions of every country*

▼ *The cinema shows us the way of life of other peoples*

one particular thing to it. This, which is called mass production, has reduced the prices of manufactured goods, and today the poorer classes can enjoy many comforts formerly confined to the rich.

The evolution of society has led the common people to take much more responsibility for the government of the country. They elect people to sit in Parliament, and from them a government is formed. In some countries, such as Russia and China, the land, the factories and plant, have been taken over by the State, and the government portions out to each person his share of the national wealth.

The big cities of today tend to become more and more alike. They are very busy and the traffic is intense. Big stores offer their customers produce from every part of the world. As soon as it gets dark, the streets are brilliantly lit, and the passer-by is dazzled by advertisements in neon lights. Theatres and cinemas offer their diverse programmes. Modern architecture gives these towns a new look. The use of reinforced concrete has enabled buildings to be much higher, and the people who live in them get more light and air. But the noise is often unbearable, and life in these towns is tiring. Many people, after their work in town, prefer to go home to the quieter suburbs, where they live in comfortable little houses surrounded by gardens.

People no longer experience the isolation of former days. The cinema shows them how other peoples live and gives them a wish to travel. The scholars, technicians, and businessmen of every nation are constantly meeting each other. As in ancient Greece, every fourth year the sporting champions of the world meet in an international contest. These sports, the Olympic Games, are watched by thousands of spectators. Occasionally an international exhibition is held in one of the great capitals, and in them may be seen the inventions of all nations.

ore crops to be harvested with less labour

Every four years the sporting champions of all nations compete in the Olympic Games

The sea will be providing us with a greater part of our food. Besides fish of all sorts we will be making use of plankton and seaweed

WHAT OF TOMORROW?

How shall we live tomorrow? What discoveries shall we witness? What will become of this world of ours? Let us put our heads together, and try to make a guess.

The progress of medicine will still further increase the length of life, so that by the year 2000 there will be five million human beings in the world.

Rockets will be rushing about space. They will sail past other worlds, the planets. Sometimes they will land on them to enable scientists to make detailed observations. But it is not likely we shall ever be able to live on one, for some, like the Moon, have no air to breathe; others are burning hot, yet others icy cold.

We shall thus in the end be thrown back on this world, which will have to provide for our needs. Probably we shall be able to control the clouds, and, by making it rain over the deserts, we shall turn them into fertile countries. The sea will provide a greater part of our food. We shall exploit its riches methodically, as we do those of the land. Atomic energy and solar energy will enable us to employ yet more machinery. We shall work less and thus have more time both to amuse and improve ourselves. The poorest areas of the world will be developed. Today there are still places where people go hungry and are insufficiently clothed, but the day will come when there will be enough of the good things of life for everybody.

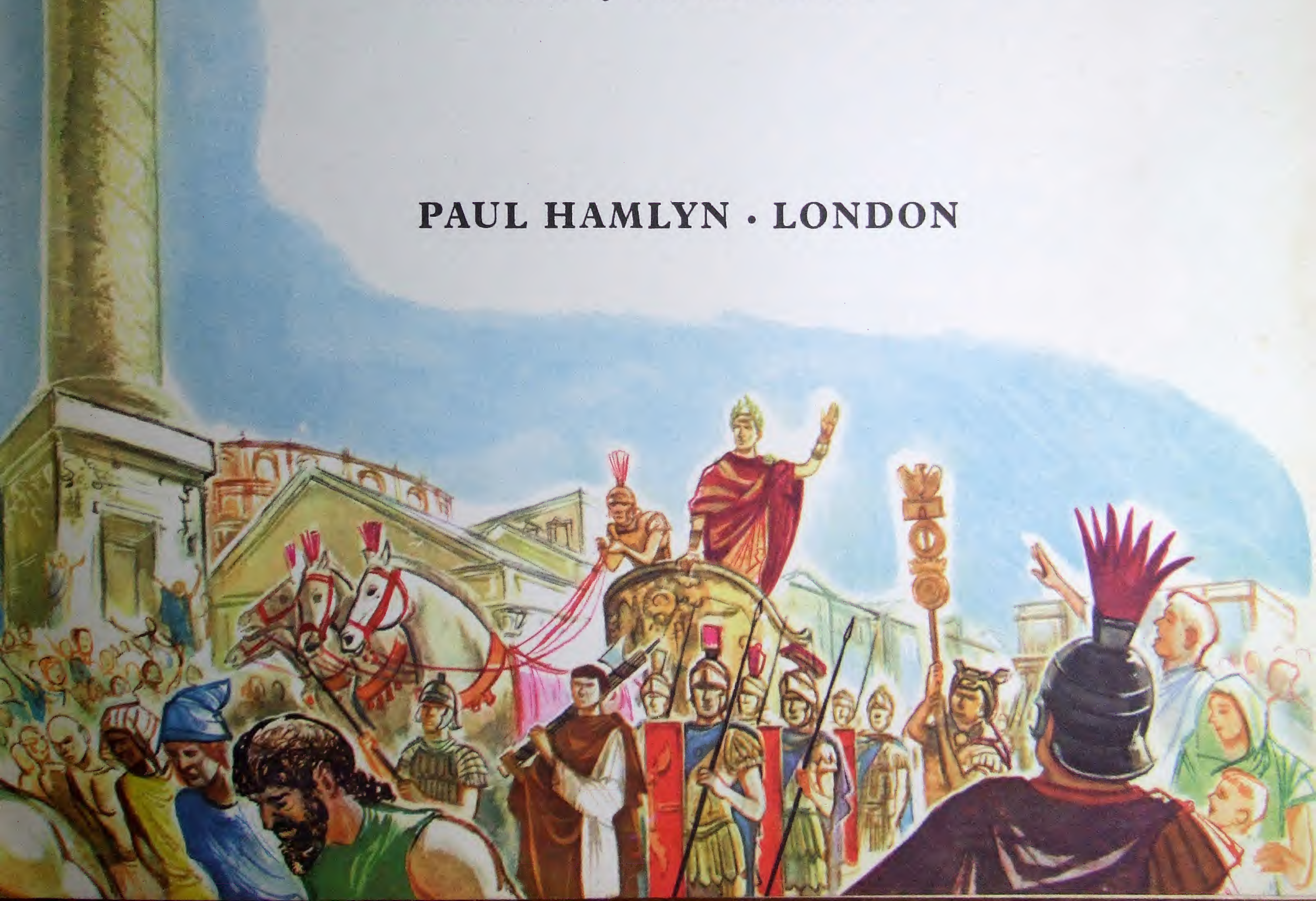
But for that to come about it is essential for peace to be established all over the world. All peoples will have to respect the freedom of their neighbours, and endeavour to know them and understand them.

Towards the conquest of space

© Copyright 1959—1960, by Librairie Nathan
Published by PAUL HAMLYN Spring House • Spring Place • London NW 5
by arrangement with Grosset & Dunlap, Inc., New York, N.Y., U.S.A.
Printed in Czechoslovakia

MICHEL LACRE

THE STORY OF MAN

Illustrations by PIERRE LEROY

PAUL HAMLYN · LONDON